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NOTES ON CULTURAL INNOVATIONS IN DYNASTIC EGYPT

WALTER CLINE

THE CIVILIZATION that began with the invention of hieroglyphs and ended with the adoption of Greek has been displayed to modern readers as a jumble of anachronisms. Egyptologists, who have set the clock for archaeology around the Mediterranean, present their own panoramas with a bewildering indifference to time. They can tell the exact years when a pharaoh reigned, a statue was hewn, or a temple built, but they fail to relate these monumental events to contemporary changes in Egyptian life. Erman and Ranke's *Aegypten*, the fullest and most authentic survey yet published, is arranged topically rather than historically, as if people who lived centuries apart belonged to a single community. This and other general works, for example, frequently cite the Ebers Papyrus on medicine without informing us when this document was written, and introduce the Osiris cult, which began before the Pyramids, by a myth from Plutarch three thousand years later. The current fallacy that Egyptian civilization was embalmed in some dynasty or other and thereafter suffered only decay is thus upheld by the very writers who are best prepared to refute it. This time-scrambled view may satisfy a casual reader who wishes only to compare the total attainments of the Egyptians with those of other peoples. It does not disturb the Egyptologist, for he knows too much to be deceived and is too absorbed in details to seek a larger perspective. But the student of cultural history cannot digest *Aegypten* until he has reassembled all the data in chronological order and related them organically to each other. In doing this he destroys the illusion of immutability but erects nothing to take its place, for the traits assigned to any one period are too fragmentary for an integrated picture and many of the others are undated.

Competent scholars should write a series of monographs, each describing as

fully as possible the civilization as it existed in a short span of time. Several of these descriptions might be drawn of various phases of the Old Kingdom (3200-2500 BC), another of the Twelfth Dynasty (2000-1788), others of the middle and end of the Eighteenth Dynasty (1580-1350), the Twentieth (1200-1090), the Twenty-first (1090-945) and the Twenty-sixth (663-525). The intervening periods are perhaps too sparsely documented for such a synthesis. None of the portrayals would be as true to life as an ethnographer's report on a tribe he has observed in the field, for each one would be drawn haphazardly from several generations and many localities, and would be loaded in favor of the social classes which advertized themselves in tombs, temples, and inscriptions; but if the writers were careful to remain within strict chronological limits and to include all details of life, however trivial, they would give us a more realistic picture of the Egyptians than has yet been presented.

In the absence of such monographs, no layman can write a sketch of Dynastic culture or a synopsis of its history. The following notes on cultural gains and losses, arranged in historical order, have therefore only a suggestive value. Some of them represent well-authenticated changes, on whose approximate dates most Egyptologists agree. A large proportion, however, should be labelled tentatively as "first known occurrences," leaving the date of origin subject to change in the light of further information.

If I have ignored social organization, made only a few hit or miss observations on household economy, and given undue attention to the official cults, it is because such misproportions are inherent in the material published by Egyptologists. To some extent they may have been inherent in Egyptian civilization. Negative evidence suggests that apart from the official hierarchy the social structure gave little prominence to kinship and inheritance, and that the esthetic and religious activities of the common people were patterned after those of their rulers. To counteract the widespread impression that the Egyptians devoted most of their energies to funerals, sculpture, and temple-building, I have said little about monumental architecture and mortuary practices and given more space to everyday arts and crafts. I could not refrain from interweaving a few conjectures on the causes of cultural change, for these should be the ultimate objective in our research. If historians wish to correct me, I hope that they will do so in print.

I have not attempted to write an outline of ancient Egyptian civilization but only to present in chronological order the features whose approximate beginning or ending dates could be ascertained. The others have been omitted, no matter how important they were.

I have obtained most of my data from the Journal of Egyptian Archaeology, Erman and Ranke's *Aegypten*, A. Lucas' *Ancient Egyptian Materials, Techniques, and Industries*, and the publications of the Metropolitan Museum of Art and the Egyptian Exploration Fund.

THE PREDYNASTIC HERITAGE

The Egyptians who built and inscribed the first royal monuments, shortly before 3200 BC, inherited all the essentials of daily life from their prehistoric forefathers in the Nile Valley and Delta. They wrote their inscriptions in the native Hamitic language, in which the Semitic elements—if we are to regard them as originally foreign—had been so modified and assimilated that a long time must have elapsed since their intrusion. The Asiatic features appearing sporadically on the threshold of the Dynastic period—cylinder seals, pear-shaped stone maces, carved vases, tubular stands for pottery, recessed brick panels, dogs and lions depicted in Mesopotamian style, and so on—show only that the Egyptians were not completely unaffected by their eastern neighbors, and provide no stronger argument for the oriental origin of the civilization than does our own Chinese bric-a-brac.

Popular life was altered very little by the political union and the beginning of writing and stone architecture which inaugurate the Dynastic age. Both before and after these innovations the Egyptians lived in rectangular houses of moulded, sun-dried brick, wore wigs and white linen garments, decorated their eyes with malachite or galena, and anointed themselves habitually with various oils and unguents. They wore beads of ostrich egg shell, steatite, carnelian, and amethyst. Boys and young men braided their hair in a heavy lock at one side of the head; and men, on some occasions, wore a kilt with an animal tail hanging behind. The people of the early historic period, like those of the late prehistoric, cultivated their staple crops of barley, emmer wheat, and flax with a long-bladed wooden hoe bound to a relatively short handle, and harvested them with a wooden sickle set with serrated chips of flint. They ground their grain to flour on a flat stone and brewed beer from emmer. They raised cattle, goats, swine, and hairy sheep. They paddled the Nile in small boats made of bundles of papyrus and in larger wooden vessels with decks, keels, and cabins, steered by one or more long oars at the stern. They mined copper and turquoise in Sinai, cast their copper tools and weapons in flat, open moulds, and smelted lead from galena. They imported gold from Nubia, shells from the Red Sea, and a great variety of materials from western Asia, such as coniferous woods, resin, silver, obsidian, and lapis lazuli. Their pottery, produced in large quantities on a

commercial basis, shows little change between Predynastic and early Dynastic times. More decorative vessels were ground out of alabaster and harder rocks. Basketry was made from dom palm and date palm leaves by coiling a bundle of fibers and sewing the coils together. As a wood-working tool the Egyptians used the adze more than the axe, and did their pounding with round stones held directly in the hand, or with club-shaped mallets, rather than with hafted hammers. From sand and natron they made glaze to use as faience on a friable core, less often by itself to imitate turquoise. When a stiff, light material was required for ornamental purposes, they covered linen with stucco to make cartonnage. They used spoons and copper tweezers, and played some sort of game on a checkerboard. The bow and arrow was their typical weapon. Their arrows were tipped with hard wood or chipped flint and often had a transverse, chisel-like edge instead of a point. They also fought with the sling, a copper axe with a long narrow edge inserted into the haft by three tangs, a mace with a pear-shaped stone head, and a straight copper dagger with or without a midrib, set into a hilt with curving projections enclosing the top of the blade. They hunted big game with the lasso, small game with a flat throwing-club, the striking end of which formed an obtuse angle with the shaft. They fished with nets, harpoons and barbless hooks. They buried their dead in a flexed posture and deposited food and personal articles in the grave, often in a compartment separate from the body. Certain animals, especially cattle, were sometimes buried with as much formality as people. Many supernatural powers were symbolized by animals and birds; the falcon stood for divinity, and most amulets were theriomorphic. Though there is no evidence for a tribal or clan organization, the country was divided into about forty administrative districts, each of which had an emblem of its own.

CULTURES OF DYNASTIC EGYPT

3400-2980 BC Dynasties I and II 420 Years

On such humble foundations the rulers of Egypt, in the five centuries preceding 3000 BC, superimposed a new complex of art, architecture, ritual, and theology. This had not evolved spontaneously from popular traditions. The governing class designed it as propaganda for the monarchy by selecting and reintegrating many old native themes, inventing a few new ones, and perhaps adapting certain foreign ideas to Egyptian patterns. Nevertheless, the monarchy itself was the result of an economic evolution predetermined by human geography. Twenty centuries of agriculture had crowded the narrow floodlands of the Nile with sedentary, hard-working people and had made it necessary for them to organize their irrigation projects and their systems of land tenure on an in-

creasingly larger scale. The union of Upper and Lower Egypt under a single king was more than a political or military achievement; it mobilized all the resources of the country under one administration. Like most new totalitarian systems, it bolstered itself psychologically with a new combination of slogans, symbols, and rituals.

The character that distinguished most strikingly the new culture from the old was the emphasis on symbolic representation. This was manifested in hieroglyphic writing, in a style of graphic art closely related to hieroglyphic forms, in a pantheon of divine figures, in the architecture of temples and royal tombs, and in a round of ceremonials supporting the divine right of kingship.

Hieroglyphic writing developed from the crude pictographs current in late Predynastic times. These pictographs, however, account for only a small proportion of the written symbols which came into use in the first two dynasties. Most hieroglyphs were ideograms with fixed verbal meanings; others, originally ideographic, could be used not only to represent complete words but also the phonetic components of words. The combined use of ideograms and phonograms paralleled the contemporary Sumerian writing so closely that Asiatic influence can scarcely be doubted, but the symbols themselves were purely Egyptian. The transcription was still extremely concise, usually leaving particles and other minor words unwritten and rendering each word with a single ideogram, but all the functional classes of hieroglyphs later employed were differentiated before the end of this period. Though sometimes written with carbon ink, hieroglyphs had been designed for monuments rather than manuscripts. The cursive script known as hieratic was developed by writing hieroglyphs rapidly in ink with a frayed rush pen.

Dynastic art in sculpture and bas-relief seems to have been created by professional artists to immortalize the members of the new royal society. It was not derived from the folk art of prehistoric Egypt or from any known foreign source. Both in style and purpose it diverged profoundly from prehistoric traditions. Portrait sculpture in stone, attempting to provide an imperishable body for the dead, attained perfection a few decades after it began. Stone bas-reliefs portrayed animals and birds realistically and delineated the muscles and other details of human anatomy with lifelike accuracy. Draftsmen now adopted the typical Egyptian compromise between profile and front views of the human figure. Stone masonry, first used as a lining for royal tombs, satisfied the demand of the mortuary cult for eternal durability. Other new architectural features included the lotus pattern on the capitals of columns, the decoration of walls with glazed tiles, corbelled stone vaults, and "barrel vaults" in leaning courses of mud brick.

The first religious inscriptions indicate that several local or territorial deities had recently been elevated to national status. The titles of most of the kings embody the name of Horus, a falcon-headed sun-god probably native to Lower Egypt, but one substitutes that of Seth, an Upper Egyptian god, and that of the last ruler of the Second Dynasty combines the names of both. From the unrecorded prehistoric cults emerge a dozen gods and goddesses with much the same attributes that they will bear in times to come, but not holding the same relative importance. Neith, represented by a shield crossed diagonally by two arrows, was the leading patroness of royalty. The inscriptions mention a periodic festival for the god Sokri and festivals celebrating the birth of various other deities, notably Mafdet, Min, two jackal-headed gods, and the goddesses Maat and Seskhat. Heriskhef was the tutelary god of Herakleopolis. Several deities were represented by animal figures. Min, on a standard of Hierakonpolis, has the head of a wild sheep. Seth, who had not yet acquired the evil character given him by later theologians, was figured as a problematical quadruped which may possibly have been an okapi or wild hog but was more likely fanciful. One jackal-headed god, whose name was spelled phonetically SEZ, was borne on a royal standard, and another resembled the god later known as Imiut of the Siut district—a post hung with a jackal skin and usually topped with a jackal head. A local deity with the head of a crane or ibis may perhaps have been Thoth. One of the earliest kings, wearing the crown of Lower Egypt, is shown with a vulture-headed goddess who has been tentatively identified as Nekhbet. A solar deity was represented by a winged disc. Though the sun-god Re had probably entered the official pantheon, the supposed references to Amun at this early date are very doubtful. A conflict between the dogmas of Heliopolis, with the sun-god as their leading deity, and the dogmas of Memphis centering on the local creator-god Ptah, has been inferred for this period from later sources.

Religious and political symbols familiar in later Egypt had already been adopted. A bird figure stood for the soul of the gods. Male deities carried the *was* sceptre symbolic of "well being"—a staff with a diagonal head and a bifurcated butt, similar to the camel-stick of the modern bedawin of northwestern Arabia. Female deities carried a reed. Gods were shown presenting the king with the *was* sceptre, the *ankh* or loop-headed "cross of life," and the symbol *waz*, "freshness." Upper Egypt was symbolized by a liliaceous plant, Lower Egypt by a cluster of papyrus. The insignia of kingship were the crowns of these two regions and the flail.

The Sed festival or royal jubilee, perhaps celebrating the thirtieth year after the proclamation of the sovereign as heir, was performed as a double rite to com-

memorate the union of Upper and Lower Egypt. In another ceremony the king dramatized the yearly Nile flood by carrying the hieroglyphic sign HAP beside a running bull. Ablution, libation, and fumigation by incense were important ritualistic elements. People of the ruling class buried their dead in large underground chambers covered by flat superstructures of brick with sloping sides, near which they erected stone stelae bearing the name of the deceased and often a figure of him seated on a chair before a table of offerings.

By extending foreign trade and organizing domestic industry and commerce the monarchy stimulated many new developments in the arts and crafts. Among the innovations probably derived from Asia were grapes, wine, and a breed of cattle with horns projecting forward in an ellipse almost closed at the ends. An increased supply of copper led to new types of copper objects: bowls, adze-blades with rounded butts, fish-hooks (still without barbs), crudely notched saws, larger chisels, and double-edged knives, one form of which, apparently specialized for cutting linen on a board, was sharpened only on convex curves at the top and bottom of the blade. The rising activity in wood-working may have been due to the increase in copper tools, but it was probably stimulated, like the contemporary surge of brick-making, by the demands of the monarchy for more impressive architecture and furnishings. Smiths cast copper by the *cire perdue* process, plated it mechanically with silver, and made chains. Flint tools assumed new forms, one of which was a scraper with rounded ends. Flint knives, very uniform throughout southern and middle Egypt, were finely curved, and had a notch handle in the first half of the period; in the second half they became coarser and their backs almost straight. Pottery began to be shaped on a slow wheel, thus becoming still more commercialized and losing most of its esthetic value. This transition is reflected in the uniformity of ceramic styles throughout the southern and central parts of the country. Very large jars slung in cordage, and pottery ring-stands for keeping the bottoms of vessels off the ground, were used for the first time. Some people were buried in pottery coffins. While ceramics deteriorated under mass production, stone vessels, sometimes hollowed by means of a tubular drill, were fashioned more skillfully and artisically than ever before. Spoons and slate cosmetic palettes, formerly so common, now became obsolete, and a taller, conical form of spindle whorl replaced the flat type of the late Predynastic. From now on people slept on a frame bed with a web surface. The legs of the bed, as well of other furniture, were often carved to represent the feet of cattle, or more rarely of lions. Thin armlets of flint and fine articles of ivory came into vogue.

2980-2625 BC Dynasties III-V 355 Years
The Pyramid Age

During the next four centuries the institutions supported by the royal class were elaborated, formalized, and magnified in scale. The capital was at Memphis, near the modern Cairo, giving national dominance to Lower Egyptian features in religion and art. Inscriptions, now much more numerous, show the hieroglyphic and hieratic systems fully established. The official need for strict surveying and accounting, and the precision demanded of architects and masons in fitting together large blocks of polished stone, led to accurate techniques for weighing and measuring and to the development of applied geometry, a trend that reached its fullest expression between 2900 and 2750 in the Great Pyramids of Giza. While the decoration of many stone buildings reproduced the structural details of earlier architecture in wood, matting, and reeds, certain new devices appeared, notably the torus and the cavetto cornice. The decoration was more lavish, delicate, and imaginative in the Third Dynasty (2980-2930) and the Fifth (2750-2625) than in the Fourth, probably because it originated in Lower Egypt, whereas the heavier and more austere style of the Fourth Dynasty originated in the south. Stone bas-reliefs were cut much lower and flatter than formerly and in a more conventional style. The fine limestone murals for which Egypt is famous began suddenly at about 2900 BC. Portrait statues, maintaining the high esthetic and technical standards of the former age, gave more emphasis to the personality of the subject.

Minor technology also changed considerably during these four centuries. Potters now fashioned their vessels on a fast wheel and specialized in plain, finely baked bowls in a red ware, no longer making the very large jars typical of the former period. From an artistic point of view, stone vessels deteriorated. Several new pigments, including azurite and a blue composed of a double silicate of calcium and copper, were added to the artist's palette. Paste mosaic, a method of adorning walls by hollowing out the figures and filling them with colored plaster, was abandoned after a few experiments because the plaster fell out. Trade with Asia under the highly centralized government brought large quantities of Asiatic wood to the royal workshops. Gold work was exceptionally skillful, particularly between 2750 and 2625; and silver, though still rarer than gold, was sometimes used as a solder for joining copper. If two small, unworked pieces of bronze belong to this period, they are the earliest specimens of this alloy from Egypt. The government valued goods according to a metal standard, the nature of which has not been determined. Paper was now manufactured

from the papyrus reed and used for recording the temple accounts. Boatmen steered their square-sailed ships by a vertical tiller projecting downward from the steering-oar. A copper axe-blade with a semicircular cutting edge and a deeply scalloped back evolved from the earlier narrow form. The pear-shaped mace went out of actual use, though it continued to be shown in hieroglyphs and royal scenes. The harp, which later became the leading musical instrument, seems to have been invented or introduced at this time. It was about four feet high and had only five or six strings; unlike the larger harps of later times, it was played sitting. Chairs with arms and high backs came into fashion about 2650 but soon went out. A round copper mirror with a short tang for the handle was added to the woman's toilet kit. People who wished to keep their coiffures from being mussed while reclining rested their heads or necks on a pedestal with a concave top, with a linen pad or a bag of chaff added for comfort. A plain, solid headrest was typical from 2900 to 2700, though several types with stems and rectangular bases were likewise in vogue. These bear a striking resemblance to the head-rests used recently by the natives of the Congo and East Africa. From this period comes the first record of myrrh, which must have been imported from a considerable distance.

The state religion seems to have become more elaborate, though this impression may be only the result of a fuller record. Much of our information in this field comes from the mythological and magical texts inscribed on the inner walls of pyramids between 2750 and 2475 BC. In many cases it is impossible to say whether these represented the contemporary religion or whether they were only archaistic survivals. We must also discount the efforts of court theologians to support the monarchy by revising old dogmas or by inventing new ones which never gained general acceptance. We should not assume that the doctrines embodied in the Pyramid Texts ever formed a theological system or that they were held *in toto* by any one community; but if we accept them only as folklore from various parts of Egypt, collected and edited by royal propagandists, they may give us at least an inkling of ancient cults otherwise unknown. Internal evidence, such as the implication that Upper and Lower Egypt were mutually hostile countries, suggests that some of the beliefs recorded in the Pyramid Texts had been current before the First Dynasty. Prominent cosmogonic deities were the earth-god Geb and the sky-goddess Nut; Shu, the void between earth and sky, holding up Nut with his arms; Sah, identified with the constellation Orion; and the star Sirius, associated with the Nile flood. The texts also mention, and to some extent equate, various solar deities whom we may suppose to have been worshipped originally in different localities: Re, Atum the offspring of Geb and Nut, and

several gods called Horus, whose confused history has led Egyptologists into interminable speculations. The falcon-headed Horus incarnate in the living king, and the Horus who played a legendary role as the son of Osiris and Isis and the enemy of Seth, may originally have been two distinct deities. The sky-goddess Hathor, "the House of Horus," gradually lost her celestial functions but developed a strong royal cult as consort of the sun. The ritualistic practices of libation and lustration were rationalized theologically in the daily rebirth of the sun from the waters and the revivifying of the corpse of Osiris by water.

Osiris, who now first appears under this name (Wesir), was identified with the constellation Orion and with Wepwawet, a deity of canine form worshipped at Abydos, while his consort Isis was identified with the star Sirius. He represented the dead kings, thus complementing the function of Horus who represented the kings while alive. The texts refer to the murder of Osiris by Seth, his subsequent resurrection, and the efforts of Horus to avenge his death. Since Horus lost one of his eyes in this heroic conflict, "the eye of Horus" became a euphemism for religious offering. A rite performed on mortuary statues represented the opening of the mouth of Osiris by Horus. One text relates that after the gods command the dead king to rise, Geb opens his mouth, and Horus and Thoth set him upright on the throne of Osiris, where Isis and Nephthys salute him as the divinity. The moral implications prominent in later Egyptian theology are already evident: the dead is judged by Osiris, and his past actions must be justified before he is accepted by the gods. Certain passages in the Pyramid Texts suggest ancient religious dramas, two of which may have been perpetuated in the rituals of the Nile flood and of the death and resurrection of Osiris.

Between 2930 and 2750 the rulers promoted the cult of Atum and Re, solar gods who had presumably been worshipped by two distinct portions of the earlier population. In the same two centuries the goddesses Hathor and Nut were served by numerous priests and priestesses of the nobility, and in certain rites, notably the Sed festival, an order of musician priestesses attended the king. Neith, Hathor, Wepwawet, Thoth, and deified kings also had special prophetesses. After 2750, when Atum was officially identified with Re, the reigning kings were regarded as his sons and were assimilated in his divinity after death. Nine deities —Atum-Re, Shu, Tefnet, Geb, Nut, Osiris, Seth, Isis, and Nephthys—took the leading parts in the creation myth and were particularly associated with the town of Heliopolis. Theologically they were often treated as a single deity, giving a precedent for the grouping of other deities in sets of nine.

The members of certain professions paid reverence to divine patrons and served as their priests: jurists to Maat the goddess of truth, physicians to

Sekhmet, artists to the creator-god Ptah. The god Thoth had prominent celestial functions. Double temples were built for the celebration of the Sed festival. Natron, used primarily as a mouthwash and hence as a purificatory offering in certain rites, was also applied as a dehydrating agent to the bodies of the dead. Royal corpses were carefully wrapped in strips of linen over which a resinous liquid was poured. Bas-reliefs in royal tombs depicted the earthly life of the king, and the mortuary stela, instead of standing free, was encased in the masonry of the tomb.

2625-2160 BC Dynasties VI-X 465 Years

The First Intermediate Period

As the pharaohs lost their power and the central monarchy disintegrated into several small local dynasties, many Asiatics infiltrated the northern part of the country. Cultural changes in the First Intermediate period reflect both of these historical events. The breakdown of the political structure opened the way for a social revolution which diffused the former perquisites of royalty among the lower orders. As a result of this upheaval, contemporary literature is more preoccupied with social and moral problems than with theology. Several changes in the grammar of the written language, such as the tendency to replace synthetic tense forms by analytic ones, may have been due to colloquial influence. From now on they led gradually toward the literary idiom which was to crystallize after 2160 as the classical "Middle Egyptian." Determinative ideograms, not to be pronounced, were appended to the spelling of most words except particles. Mural artists painted more naturalistic figures, and sculptors working at various towns in the valley developed moderately independent styles instead of following that of the capital.

The mortuary cult of Osiris, highly elaborated for the aristocracy after 2600, later spread among all social classes, stimulating vivid popular conceptions of the other world and enabling anyone who could afford a proper funeral to become Osiris after death. Abydos, his traditional burial place, became a sort of national cemetery. Soon after 2625 the viscera of the dead began to be deposited in a set of four Canopic jars. Corpses were no longer buried in the contracted position but were laid out at full length in a high, narrow, rectangular coffin with a human eye painted in a panel on the exterior. In Middle Egypt the provisions and furnishings for the dead were pictured on the inside of the coffin, together with the religious and magical passages known as the Coffin Texts. Upper Egyptian coffins usually had blank interiors but were inscribed externally with lists of offerings and sometimes painted with scenes. Directly over the mummy was placed a mask of cartonnage. In masculine burials this bore a short, spread-

ing beard and a moustache, though the moustache had recently gone out of actual fashion. Miniature models of boats, granaries, servants, and artisans at work were deposited in the tombs as a cheap substitute for murals. Mortuary stelae were carelessly executed, and inscribed with a slipshod mixture of hieratic and hieroglyphic characters. People wrote letters to the dead on pottery vessels containing offerings of food.

Contemporary religion shows few innovations outside of the mortuary field. In the middle of this period, when the chiefs of Herakleopolis held extensive sway, their ram-headed god Heriskhef gained temporary importance as a solar deity. Certain priestesses, including those of Iunmutef, were entitled "concubines of the god." The earliest scarabs—small charms in the form of the sacred beetle—had geometric figures, scrolls, and lotus patterns incised on their flat bases. The sistrum, a jingling musical instrument associated with the goddess Hathor, was carved typically in the form of a papyrus plant.

In this era of political and economic disruption, technology made few advances. The copper mines of Sinai were abandoned or operated only to a very small extent. Stonemasons dressed their blocks with copper chisels and scrapers, though they still used the adze for trimming the corners. We now find the first copper hair-curler, an instrument composed of a knife and a little trough pinned together like a pair of scissors, so that the back of the knife could be recessed into the trough. Other probable innovations were date wine, the mechanical plating of copper with gold, the use of green frit as a pigment, and a post for supporting the steering-oar at the stern of the ship. Two new features probably derived from Asia were the so-called button seals, which were much in vogue between 2600 and 2300 but went out of fashion thereafter, and the ritualistic use of *seven* instead of the number *four* which had prevailed in earlier times.

2160-1788 BC Dynasties XI and XII 372 Years

The Middle Kingdom

The political reunification of Egypt under the Eleventh Dynasty, with its capital at Thebes, inaugurated a new era of progress and gave national dominance to certain styles and institutions which heretofore had prevailed only in the Theban district. For various reasons the brilliant culture of the Twelfth Dynasty, with its capitals in the Faiyum and near the modern towns of Lisht and Dahshur, south of Cairo, deserves a place by itself; but since much of the information from both these dynasties has been published only with the ambiguous label "Middle Kingdom," it would be impractical to separate them in this elementary survey.

The popularizing trend of the past four centuries had bequeathed to people of the middle class, all over the country, large artistic and religious legacies from the pharaohs of the Pyramid Age. The pleated kilt, formerly distinctive of royalty, was now worn by commoners. Capes, cloaks, shawls and flowing gowns supplemented the simple loincloths and straight dresses typical of the Old Kingdom. Instead of going naked, as in the Old Kingdom, children of respectable families now wear conventional clothing. Fine scarabs, now inscribed with labrynthine designs instead of spirals, were used abundantly as seals in bezel rings and lost much of their religious value. Those typical of the Twelfth Dynasty had long bodies and striated legs. Cylinder seals disappeared. The recent social revolution may also have been reflected in the greater variety of personal names and the closer moral relationship between the worshipper and the gods. From now on one's fortune after death depended on one's conduct during life. The epithet "justified" appended to the name of the deceased ("the Osiris so-and-so") bespoke his right to immortality. But this ethical attitude did not inhibit the mechanical ritualism so typical of Egypt. Persons too poor for expensive funerals and tombs resorted to cheap imitations or purchased a minor share in the cults of the great. Some of them covered their graves with little pyramids of brick. The more prosperous set up their mortuary statues in the temples, where they contracted with the clergy for specific offerings and hoped to benefit by the services rendered the gods. Private tombs and funerary stelae in the first two centuries of this period were decorated in a careless, degraded manner. The prevalence of magic may be regarded as another manifestation of the same popularizing trend. Commoners now made free use of funerary spells originally inscribed for royalty. The Book of the Dead, a series of verbal charms written on papyrus and deposited with the mummy, performed the function of the former Pyramid Texts and Coffin Texts, with more particular emphasis on magic and sorcery, and the spells inscribed on coffins employed the names of the souls of certain festivals and sacred localities as instruments of magical power. Pairs of ivory wands, often carved in the shape of human hands, were presumably used as a supernatural means of protection.

The written language was stabilized as the classical Middle Egyptian, with a more consistent spelling and a florid, metaphorical style. Several new letters were added to the alphabet as alternatives to those already in use. Two new forms of hieratic, one more cursive than the other, and both with an orthography distinct from that of the hieroglyphs, replaced the older, thick-lined script. In the Twelfth Dynasty all classes of documents were written in a very uniform language; hieratic became still more cursive, adopted many new spellings and

made a greater use of determinative signs; and a new syllabic orthography developed in hieroglyphs. The literary works of the Middle Kingdom surpass those of any other period in number, variety, and quality, and were to serve as models for scribes in later times.

Tomb murals, though crude in the early part of the Eleventh Dynasty, improved remarkably thereafter and reached a new peak of excellence in the Twelfth, when they were executed in bas-relief and sunken relief with delicate, graceful lines. The vigorous naturalism of portrait sculpture in the Twelfth Dynasty rivalled the best Old Kingdom work, though modified by certain conventions, such as the unnaturally high position of the ear. Typical of this period was the figure of a sitting man with the knees drawn up to the chest and the flat sides of the statue inscribed. Small effigies of standing lions were also common.

Technology gained from the trade with Asia and the Aegean fostered by the new monarchy. Metallurgy progressed rapidly after the introduction of bronze from Western Asia and the reopening, under royal auspices, of the Sinai copper mines which had been little exploited for the past six hundred years. In the Twelfth Dynasty many tools and weapons were made of bronze, cast by the *cire perdue* process with an ash core. The semicircular heads of battle axes were lengthened to double their width, small chisels set in wooden handles made their first appearance, and a razor with a crescentic or semicircular blade replaced the straight-edged type. Flint went out of use for the blades of hoes and other common implements, though a few flint axes were shaped to imitate those of metal. The last flint knives were made with straight backs and without the handle notch typical of earlier forms.

Various other foreign innovations accompanied the introduction of bronze. Wooly sheep with curved horns, presumably Asiatic, superseded the ancient hairy variety with low, flat horns projecting laterally. Some of the cattle show one of the horns trained artificially downward, reminiscent of a recent East African practice. The lyre, now played by Egyptian musicians for the first time, was probably borrowed from Western Asia or the Aegean. The domestic cat now appears for the first time, probably introduced from Asia or the Sudan. Ships were rigged with a single fixed mast instead of the demountable double mast typical of the Old Kingdom; and the sail, which was proportionately lower and broader than heretofore, was hoisted on a yard. Some of the pottery in the Twelfth Dynasty bore handles, unusual for ancient Egypt; and the fantastic shapes of pottery vessels in vogue at the end of this period suggest a foreign source. The cowry shell motif popular in jewelry of the Twelfth Dynasty may

have been derived from abroad. Another probable innovation was the use of red kermes dye for leather.

Other technological changes seem to have originated in Egypt. Some of the common pottery styles of the Twelfth Dynasty—drop-shaped vases with spherical bases in a thin, drab ware, vessels with angular patterns incised, and large storage jars with short and very narrow necks—may be purely native creations. The artisans' bow-drill with a loose cap was probably an outgrowth of the weighted drills of the Old Kingdom. Spindle whorls were usually cylindrical. Women in the Eleventh Dynasty applied their eye-paint with a small rod or stiletto, and double tubes of limestone for cosmetics came into fashion in the Twelfth. The "snake game," played by two opponents on a spiral board, now went out of use. After 2475, vessels of diorite and alabaster became less common.

The wealthy feudal lords of the Twelfth Dynasty set high standards in the decorative arts, especially jewelry and bric-a-brac. Artisans now manufactured true glass, as distinct from faience or glaze with a frit core, and applied a thin layer of felspar as a protective surface over glaze. Jewelers, more skillful and imaginative than ever before, employed a new technique of granulated gold work and specialized in soldered cloisonné set with carnelian. The cowrie shell and the reef knot were favorite motifs, and gold rosettes were often attached to wigs and garments. Imported obsidian was used extensively for making vases and ornaments.

In the Eleventh Dynasty the dominance of Thebes as the political center brought into national ascendancy several local gods of this district, notably Amun, Min, and Montu. Amun was now identified with Re and Atum as the supreme, solar deity, though he retained the blue skin and the high plumed head-dress which mark him as an early Theban relative of Min. Superficial changes in ritual before the year 2000 suggest profound modifications in the official religion and foreshadow the ecclesiastical developments of the next few centuries. The royal toilet apartment, so prominent in the daily ceremonial of kings in former times, seems to have lost its sanctity except in certain temples, and the sistrum in papyrus form gave place to one with a looped top and the head of the goddess Hathor. In the Twelfth Dynasty we find the first evidence of the ritual of the *teknu*, an animal skin of unknown significance, and the first month-calendar of lucky and unlucky days.

Mortuary practices diverged sharply from those of the past five centuries. The tomb styles of the Old Kingdom were partially revived and the small mortuary models characteristic of the preceding period went out of use. Sawdust, beeswax, and henna were used in embalming. Human figurines known as *ushabties*

were now occasionally placed in the tomb, probably to represent the dead. The cartonnage mask covering the mummy developed into an anthropomorphic inner coffin.

1788-1580 BC Dynasties XIII-XVII 208 Years

The Second Intermediate Period

After the collapse of the feudal monarchy Egypt was invaded by the Asiatics known as the Hyksos, who ruled the northern half of the country from their capital in the eastern Delta for more than a century. They introduced horses, bareback riding, and horse-drawn chariots, the two-edged dagger with a midrib, and a lute with a small body and a long neck played with a plectrum. To them may probably be attributed several new styles of pottery: buff or brick-red ware painted with geometric designs in dark brown or black; small jugs with handles, decorated with dots and lines filled with white paint; and vessels modelled in the form of animals and birds. They promoted the cult of the god Seth, whom they identified with one of their own deities. From their language Egyptian assimilated many Semitic words.

Other changes took place independently or as the indirect results of the Hyksos domination. The literary language began to show grammatical tendencies characteristic of later times, such as the use of the definite article. Hieroglyphic inscriptions were sometimes stamped on stucco with a wooden mould. Rings of gold, silver, and bronze were standardized for valuing other goods and as media of exchange. Copper mining in Sinai slackened, but flint arrowheads were entirely replaced by those of metal. Among minor refinements came the engraving of glass, the use of a horn container with the large end closed and the small end serving as a spout or spoon, high-shouldered pots for eye paint, and the headrest with the very long base. Outer coffins shaped like a mummy came into fashion early in this period. The most elegant were of the "rishi" style, with the painted wings of a deity spreading over a background of gold leaf. A more puzzling, though less impressive, mortuary innovation was the practice of depositing onions in the mummy's abdomen.

1580-1350 BC Dynasty XVIII 230 Years

The two centuries of imperial expansion into western Asia and the Sudan brought more innovations than any other period of equal length. From Asia the Egyptians imported and adopted several military improvements, such as the horse-drawn chariot (with wheels of four spokes till about 1450, but with six spokes thereafter), the compound bow made of horn, sinew, and wood, scale

armor (called by the Semitic word *siryon*), the dirk of copper or bronze, and the battle axe-head with a narrow waist. Two Asiatic trees, the pomegranate and the almond, were added to Egyptian gardens; and the olive, though probably naturalized in much earlier times, now seems to have been cultivated more extensively. Cattle of the zebu variety, with a boss over the shoulder and moderately long horns, were first brought as tribute from western Asia. A strong white hunting-dog, perhaps from southern Arabia or the Horn of East Africa, began to rival the slim native greyhound as a favorite pet. Bronze made with Syrian tin became the normal metal for tools and weapons; small quantities of iron began to be imported, though not yet used for implements; and silver—probably from a newly tapped Asiatic source—was used in larger quantities. Copper was now brought from Asia, since the nearby mines in Sinai and the eastern desert no longer sufficed. Various Asiatic textiles came into fashion, notably a rippled cloth and a polychrome fabric in tapestry weave with a slit left along the vertical edge of the color field. The upright loom now used for weaving linen may have been recently introduced from Asia; so far as I know, earlier pictures of weaving show only a horizontal loom pegged close to the ground. Other innovations probably of eastern origin were the trumpet, the rectangular tambourine, drinking sets with funnels and strainers made of metal or faience, yellow jasper, yellow orpiment for paint, cinnamon, and a peculiar form of stone vessel with three raised ribs around the body, sometimes with a low foot or set on a separate stand. Foreign conquest resulted in an increase of slaves, if not in the very beginning of slavery in Egypt. The king bestowed prisoners of war on their captors, while male and female slaves were sometimes dedicated to temples. It was perhaps to emulate oriental monarchs that the pharaohs made such a show of big game hunting, especially the lion hunt. Mural scenes after 1420 indicate that commoners no longer indulged in this sport.

The prosperity attending the expansion of the empire led to a cultural efflorescense, not as originative as the Old Kingdom in graphic art, or as the Twelfth Dynasty in literature, but generous in luxuries and congenial to the parvenu. Contemporary documents suggest a social flux in which people from many levels of society were intermingling close to the top. "Late Egyptian," written in hieroglyphs after the seventeenth century, seems to have approximated everyday speech. It is distinguished from earlier idioms by many new words for common things, by the prevalence of analytic verb forms, by an indefinite article derived from the numeral "one" and a definite article from a demonstrative adjective, and by the shift of the accent from the first to the later syllables of a word or phrase. Hieroglyphic spelling abounded in functionless signs and etymological

fabrications, as if it were vainly trying to keep pace with the spoken language. In the new hieratic writing the phonetic rendering usually followed the ideogram.

Art became light and graceful, rendered typically in rapid, brilliant techniques rather than in the more laborious ones. Flat painting was employed instead of bas-relief for tomb murals after the first few decades of the era. Glass was now made transparent, and hot, malleable rods of glass in various colors were fashioned into vessels by winding them around a temporary core and fusing them together. Before these viscous coils had cooled and hardened they were drawn downward on the outer surface with a pointed instrument to bind them together and give a very pretty chevron effect. In the latter part of the era, faience and glaze were colored in greater variety than heretofore: pure white, polychrome, violet, purple, yellow, chocolate brown, and several shades of pale green. Alabaster vases came back into fashion after a lapse of several centuries, but stone vessels in general had been superseded by fine pottery and faience. The typical pottery had a softer texture than that of the Twelfth Dynasty. Early in the era it was often decorated with a red band around the top, in later times with black and red lines. Blue frit in lines and bands began to be applied to pottery about 1400 BC and was later expanded to larger surfaces of the vessel. Household furniture was distinguished by the introduction of foot-stools, the return of chairs with arms and high backs after an absence of a thousand years, and legs carved more often in the form of lion's feet than in those of the bull. Figures of geese and ducks were a favorite motif in the applied arts, especially for toilet articles. There is some reason for believing that Egyptian music made the first use of half-tones in this era.

Personal adornment changed considerably. Disc beads of ostrich egg shell went abruptly out of use, as if the refinements of the new era left no place for such prehistoric barbarities. Ear ornaments such as plugs, studs and rings, worn sparingly in former times, now came into general vogue, perhaps as an Asiatic innovation. To women's costume were added a headband about an inch broad, tied behind (where the ends did not meet) with a pair of strings, and the so-called "festal cone" of some undetermined substance, possibly wax or unguent, worn on top of the head. Women's costume, like the men's, is almost entirely white, in contrast to the colored garments worn by women in the Middle Kingdom and earlier. On some occasions the king wore a new form of helmet, covered with circles like curls of hair. Scarabs and seals lost their spiral designs in the first half of the period and were later designed to commemorate royal events, such as the king's hunting expedition.

Several technological changes seem to have evolved independently in Egypt,

though a foreign source may yet be discovered. Reapers now left a taller stubble, possibly because the increase in livestock had made forage more valuable. The plow was given longer handles, connected to each other by cross-beams, and was harnessed to the ox by a neck-yoke and a broad strap as an alternative mode to the earlier type of yoke across the horns. A long-handled wooden hammer was utilized for breaking clods. The sails of ships broadened to about twice the height of the mast, so that the yard had to be made of two poles lashed together end to end. Smiths blew up their fires by a pair of drum bellows worked with the feet, instead of by mouth through a blowpipe. At the end of the era they began to alloy copper with gold. In the middle of the sixteenth century an Egyptian invented a graduated vessel to measure the subdivisions of the night by the outflow of water. A conical grater made of a strip of bronze punched and coiled was used for some domestic purpose, and conical spindle whorls replaced the cylindrical ones of the Twelfth Dynasty. A new form of harpoon was adopted.

The religious trend was generally cumulative, excluding no important earlier features but emphasizing several which had their origin in Thebes, the capital of the empire, or which enhanced the glory of the ruling class. After the Hyksos domination the emperors officially opposed the cult of Seth, whom the invaders had adopted as their patron, and exalted the solar god Amun-Re, now entitled "the king of the gods." Large temples of sandstone—a material now preferred to limestone—housed his image in a dark holy-of-holies behind a series of courtyards and columned halls. Queens assumed the title "god's wife of Amun" and were identified with Hathor, the traditional consort of Re. In the reign of Amenhotep III, at the beginning of the fourteenth century, Amun was identified with Re-Horakhti under the name of Aton and tended to become a purely solar deity, foreshadowing the monotheistic cult imposed by Amenhotep IV. Agricultural scenes include little shrines of Ernutet or Renent, the snake-figured goddess of the harvest. The relationship between the worshipper and the gods seems to have become more personal; on mortuary stelae the dead addressed his prayers directly to Osiris and Re. Infants were often named from minor deities whose blessing had brought their birth, or from places and monuments associated with such deities, a practice which had been followed only sporadically in the past few centuries. Several ancient monuments such as the sphinx of Giza were now deified. The moralistic aspect of religion is manifested clearly in negative confessions inscribed to the gods by groups of middle-class workmen at Thebes. Royal tombs no longer had superstructures above ground but were excavated in the bed rock; the door was hidden by the talus; and the entrance passage, mined with a defensive well, led through an antechamber to the sepulchral hall. Tomb

murals showed the deceased receiving official honors and enjoying the life of this world with his family, and depicted his funeral and the post-mortuary feasts. Objects for the use of the dead, such as had been pictured on the inner walls of coffins in the Middle Kingdom, were now represented by very small models deposited with the mummy. Though coffins continued to be shaped to fit the mummy and to be decorated with elaborate symbolic designs, the "rishi" type went out of use.

The reforming movement commonly attributed to Amenhotep IV (Ikhnaton) had its root in the reign of his predecessor. Under Amenhotep III the god Amun, with the name of Aton, had tended to assimilate the other solar deities. Even before Ikhnaton suppressed the cult of Amun, the sun-god of Heliopolis was honored at Thebes. The high priest in a new solar temple at Karnak bore the same title as his counterpart at Heliopolis, and the Mnevis bull of Heliopolis also had a shrine there. At the beginning of his reign, Ikhnaton assumed the title of "High Priest of Re,'" but not long thereafter the name of the sun god was officially changed to "Aton." The new theology envisaged Aton as the sun itself, perhaps in a more concrete and literal sense than had been true of any Egyptian deity up to this time. His temple, modelled on the ancient one at Heliopolis, was a courtyard open to the sky. The common people continued their private worship of Ptah and other gods, but the state religion became rigidly monotheistic. Ikhnaton directed his iconoclasm most energetically against the cult of Amun, but he also persecuted those of Osiris, Isis, Horus, Atum, Montu, Geb, Nekhbet, and the sacred bull, and had their names erased from the monuments. Scribes avoided the plural of the word for "god," and when writing the words "god" and "mother" substituted alphabetical signs for the conventional falcon and vulture hieroglyphs, since these had idolatrous connotations.

Ikhnaton's suppression of the Osiris cult entailed extensive alterations in the theology and ritual of death. Contemporary inscriptions ignore the other world and the judgment meted out to the soul. "To be buried'" was the only euphemism used for "to die." The dead were called "living souls" and were thought to dwell more or less indefinitely in their tombs. Heart scarabs were inscribed with a prayer to Aton, and a figure of the deified queen took the place of Isis and Nephthys on the coffin.

This religious reform was accompanied by liberal trends in language, social attitudes, and art. In the inscriptions the colloquial idiom now replaced the stilted literary language. When referring to Syrians and Ethiopians, official writings ceased to treat them as contemptible barbarians. Artists portrayed animals, birds, and people in a free, lifelike style, often as outright caricatures. The lean, hard

faces, elongated heads, narrow hands and necks, and slack, protruding bellies of many of their human figures may have originated in the inherited traits of the royal family, in whose portraits they are consistently emphasized. During the reign of Ikhnaton, artists painted highlights and shadows and drew the human face with a dark line between the lips. One of their favorite subjects was the domestic life of the king. Architects now made the first use of the "broken lintel" and introduced certain practical improvements in the new royal palace, such as stone baths, and stone toilet seats with side compartments for sand.

1350-1090 BC Dynasties XIX and XX 260 Years

The trends that had begun with the rise of Egypt's Asiatic empire were accelerated in its decline. Religion, supported by a lush theology and a venal priesthood, reacted vigorously against the recent monotheistic movement. Art became more ornate but lost its imaginative and expressive power. Literature displayed a larger vocabulary but few original ideas. Many importations from Asia enriched material life without altering its essential conservatism.

The priests of Amun, rebounding from their suppression by Ikhnaton, joined forces with his successors to raise their cult to unprecedented wealth and power. Amun was proclaimed officially as the primordial deity and the possessor of all the land and waters. His clergy rapidly increased, enrolling men and women of all social classes. His images, as well as those of deified kings who were identified with him, gave oracular decisions by "nodding," a procedure which was sometimes used to decide legal disputes. His secret name was unknown to the other gods and would bring instant death to anyone who pronounced it. Ptah, the patron of Memphis, was identified with Amun and with several lesser deities and elsewhere, and associated in a supreme triad with Amun and Re. Royal scenes with the king as protégé of Amun were grandly portrayed on temple walls. Hathor, the leading goddess, was symbolized by the beadwork collar called the *menat* and by the sistrum in the form of a naos, which now reappeared after an absence of two or three centuries. Her numerous priestesses were themselves called "Hathors," and other female deities, such as Wasit of Thebes, assumed her name and titles and participated with her in the worship of Amun. Both she and Osiris were worshipped in the sycamore tree, which was said to have grown from Osiris' corpse. The kings reigning in the twelfth century made Osiris the head of the pantheon. Many other gods profited by the polytheistic reaction, especially Re-Horakhti, a favorite of the masses, and three military figures: Seth the patron of warriors, Montu the god of war, and Shed the divine charioteer. Animal cults gained new popularity; the Ram of Mendes ("Life of Re") and the

Apis and Mnevis bulls lived regally with a harem of cows and were embalmed and entombed like kings. Reverence was also paid to certain Syrian deities, such as the war-goddess Asit, Astarte, Baal, and Reshep.

In practice the religion of this era showed a sense of sin, self-abasement, and personal dependence on the gods, and a tendency to interpret theological doctrines in ethical and allegorical terms. Common people often bore the names of kings and deities, appealed to Amun and others to relieve them of their ills, and inscribed penitential psalms to Amun, to deceased kings, to Horus Lord of the Heavens, and to the serpent goddess Amentet, Peak of the West.

Changes in mortuary customs reflect a more pessimistic outlook on the future life and a perfunctory, somewhat mechanical attitude toward the provisions made for the dead. While the tombs contained less furniture than heretofore, their walls were painted with processions of demons and other infernal horrors instead of with happy, worldly scenes. Three hundred sixty-five *ushabti* figurines, often with 36 additional figures of "foremen," were deposited with the dead to do the work demanded of him in the other world. The mummiform wooden coffins were painted elaborately with religious tableaux. Poor and middle class people were interred communally in older tombs and were sometimes represented by small wooden models of mummies and coffins buried at the entrance of a wealthy tomb to share in the offerings made there. The Book of the Dead was written in the cursive hieratic script employed in secular documents and was supplemented by the "Book of Am Duat," a collection of magical formulae for the protection of the dead. Many old forms of amulets, such as human hands and feet and the heads of hippopotamus and leopard, were superseded by symbols and figures of gods. Ostraca were inscribed with elaborate magical spells against human enemies.

The colloquial influences apparent in the inscriptions of Ikhnaton's time led to the literary "New Egyptian" of the twelfth century, distinguished from all earlier idioms by its large vocabulary. Hieroglyphic and hieratic writing underwent minor changes in style, with a loss of regularity in spelling and many corruptions in the use of syllabic signs. For certain religious inscriptions in the royal tombs a system of secret writing was employed.

Though mural artists had ceased to block out their figures on a temporary grid, their work became stereotyped and lifeless, achieving at best a graceful and ornate effect. Grief was henceforth the only emotion shown in pictures of the human face. The many imposing temples built in this era give more evidence of the wealth and organizing power of the kings than of creative imagination on the part of the architects. Minor arts were equally uninspired and underwent

only a few minor changes, such as the formal figures of plants and flowers on the bases of scarabs.

Asiatic materials were still imported in large quantities. Some of them seem to have been choice varieties of goods that were commonly produced in Egypt, such as bread and beer; others, like gold, cattle, wood, and boats, had long figured prominently in Egyptian commerce with the east. More recent importations included horses, chariots, wagons, spears, quivers, swords, lyres, and lutes. The first Egyptian picture of a chicken—a red "jungle fowl"—shows a knowledge, if not the adoption, of a bird of Indian origin. Iron implements gradually increased, though they were still far from common. Soldiers carried a short, curved sword of Asiatic type. Resin was used in jewelry like a semi-precious stone, and two varieties of varnish, one transparent and the other black, were applied to decorated surfaces. Other innovations which may have been derived from Asia were copper hoe-blades with sockets for hafting, the dovetail method of joinery, barbed fish-hooks with long shanks, a parrying-stick bound to the left forearm for fencing, socks, mittens, and archers' gauntlets. The fine leather socks had a separate pocket for the big toe and were secured with a drawstring. Certain improvements in astronomy and time-keeping have an Asiatic look. The passage of the day was read on a vertical sun-dial, the constellations were charted, and the subdivisions of the night were marked by two observers sitting face to face and taking sights on the stars with relation to certain points on their bodies.

Apart from these foreign influences, native Egyptian styles and techniques showed little change. Ceramic types of the preceding period were reproduced with inferior workmanship, though vessels for display were made of a thick, hard pottery decorated with white specks on a drab white slip. The powdered quartz used as a body for objects of faience was coarser than in any other period. The double-edged cutting-out knife for textiles went out of use. Beads of ostrich egg shell came back into fashion. Harps were now made much larger than formerly, with twenty or more strings and an ornately decorated resonance chamber, and were played standing.

1090-663 BC Dynasties XXI-XXV 427 Years

The breakdown of the empire and the brief, chaotic reigns of Libyan and Nubian pharaohs submerged Egypt for four centuries in a kind of stagnation which favored the lush growth of a few institutions but prevented any general progress. Kings who built temples of stone quarried from older temples typified the decadence of the times. Scribes wrote their hieroglyphic texts in an artificial language which had long ceased to follow the current idiom. Hieratic

was now regularly used in religious texts and was often inscribed on stone. The more cursive and rapid script known as demotic branched off from hieratic just before the end of the period.

The religious trends of the late empire culminated in the eleventh century, when the priests of Amun ruled the district of Thebes and Amun-Re formed a supreme triad with Mut and Khonsu. Though the Libyan kings who ruled Egypt from Bubastis in the middle of the next century chose the local goddess Bastet as their leading deity, they continued to pay homage to Amun at Thebes. The Nubian conquerors in the eighth century made Thebes their capital and gave full support to the cult of Amun. Ptah was later restored to his solar glory by the priests of Memphis and assimilated many minor gods. The papyrus spells and guidebooks to the other world, deposited with the dead, were often accompanied by a wooden statuette of Osiris. Small hieroglyphic amulets on the mummy's neck spelled the "death name" of the deceased. After the middle of the eighth century, coffins were no longer varnished. Embalming reached its highest degree of elaboration in the eleventh century, when the entrails were redeposited in the abdomen instead of in Canopic jars, the brain was removed through the nose, artificial eyes were added to the face, and the cheeks and limbs were often stuffed. After the middle of the next century it rapidly deteriorated.

Under the Nubian kings the Egyptians begin to show the retrospective attitude which becomes so dominant in the following period; now, for the first time, persons proud of their aristocratic descent include long genealogies in their mortuary record.

A few technical innovations were introduced from abroad. Iron became abundant and was sometimes carburized to make steel. New implements and materials included a long, thin, one-edged iron knife, a socketed mortising chisel of bronze, sardonyx and agate for jewelry, and perhaps indigo dye. Beads of a rich transparent blue glass came into fashion in the latter part of the eighth century. In the ninth century profound economic and social changes are suggested by the adoption of silver as the official standard of value, the sale of slaves, and the increase of legal documents for commercial transactions.

663-525 BC Dynasty XXVI 138 Years

The Saite Period

The revival of ancient styles and traditions which began in the first half of the seventh century and continued till late in the sixth seems to have been stimulated by foreign immigration. Nubians had ruled Egypt for more than seventy years, Assyrians for seven; a Libyan of Sais founded the Twenty-sixth Dynasty

with the aid of Greek and Carian mercenaries. The Nubians had adopted the native cults fanatically and vied with the natives in the observance of ancient Dynastic traditions; it was they who first sponsored the cultural renaissance that reached its peak under the Saites. On the other hand, the Egyptians seem to have reverted to their own sacred past in order to fortify themselves against foreign influence. They reached back more than two thousand years for styles in sculpture and painting, court titles, and royal names to inscribe on scarabs and seals. Their copies of ancient scarabs were so exact that it is often hard to tell them from the originals. They deified Imhotep, a famous sage of the early Pyramid Age, as patron of the learned professions, and restored Neith, the tutelary goddess of Sais, to her ancient prominence as Mother of Re. Though hieratic writing had now been entirely supplanted by the new demotic, scribes modelled their hieroglyphic style on the Middle Egyptian, which had been obsolete for more than a thousand years. Artists copied scenes of hunting and other mundane pleasures from the tombs of the Eighteenth Dynasty, with the aid of the temporary proportion-squares used by the draftsmen of that period. They sculptured the figures with great accuracy and detail, but articulated them in an awkward, lifeless way. Pottery, though technically excellent, was confined to simple, conventional forms such as cylindrical cups, and jars with cylindrical necks and very small handles. Glass vessels were made by the fused rod technique, as in the Empire, and faience was given the pale blue shade which had been fashionable in the Middle Kingdom. The boring of the ear-lobes for heavy ornaments, in vogue since the Empire, now went out of fashion. Though embalmers used resin rather than natron as a preservative, they reverted to the use of Canopic jars for holding the viscera.

The effort to revive the ancient religion without understanding all of its dogmas led to grandiose exaggerations and to a somewhat confused iconography. Many deities were now represented as composite animal figures, often with the body of a falcon. *Ushabties* wore the upturned beard typical of gods. Animal worship developed exuberantly. The Apis bull was entombed in a gigantic stone sarcophagus, copiously inscribed. Sepulchres were large and elaborate. One hundred sixty-five chapters of the Book of the Dead were published in a fixed order as "The Book of Going Forth by Day."

A few changes may be attributed to Aegean trade and the Assyrian invasion. Some of the pottery imitated the Greek amphorae in which wine and oil were imported. Iron was now smelted in Egypt and had supplanted bronze for most practical purposes. Several iron devices were introduced by the Assyrians, notably ferrules, the saw with teeth pointing alternately in different directions, and a

long, straight file. It is probably in this period that the Evil Eye, a supernatural concept widespread in the Near East, began to worry the Egyptians. Camels also may have been introduced, though they were certainly very rare.

525-332 BC Dynasties XXVII-XXX 193 Years

Though the two centuries following the conquest of Egypt by Cambyses are usually called the Persian Period, the contemporary foreign influences were less Iranian than Hellenic. The oriental conquerors looked down on Egyptian civilization, not up to it like the Libyans and Ethiopians, and their intolerant, oppressive policies deterred the natives from adopting Persian habits. Only a few minor innovations have been attributed directly to Persia: the refining of gold, the introduction of a species of lotus *(Nelumbium speciosum)* and perhaps certain legal provisions in the marriage contract, including a property settlement and the right of the wife to divorce on grounds of "hatred." From Persian the Egyptian language derived several names for foreign peoples and a handful of military and administrative terms.

Greek influence, on the other hand, was fostered by the commercial, diplomatic, and military relations which had begun under the Saites. Large colonies of Greek traders had settled in northern Egypt, and thousands of Greek mercenaries were fighting for Egypt against the Persians. Native artists and craftsmen began to imitate Hellenic styles. Pottery of Greek form and decoration, vessels of lead, and garments draped after the Greek fashion, suggest extensive modifications in the material life. A far more epoch-making innovation entered the economic field. After the year 400 the pharaohs paid their Greek mercenaries in gold coin. A society which had got along without money for thousands of years was thus infected for the first time with the virus of finance. The Saites themselves, for all their zeal to revive ancient Egyptian culture in its purest form, had opened the way for the Hellenization of Egypt after Alexander's conquest and her economic subjugation by Rome.

CONCLUSIONS

A graph of Egypt's cultural history may assume various patterns according to the criteria we choose as measures of progress. The total inventory of materials, implements, techniques, artistic forms, social institutions, rituals, and dogmas seems to have been richest in the Saite or Persian times, for the Egyptians of this era drew ideas from their whole recorded past and were receiving many innovations from abroad. Artistic originality was highest in the first three dynasties, in the Twelfth, and in the Eighteenth; artistic and technical skill in the

Pyramid Age; the quantity and variety of artistic production from the Eighteenth to the Twentieth Dynasties inclusive. Literary and scientific activity seems to have reached its zenith in the Twelfth Dynasty, though this impression may be due to selective factors in our data. Religion developed most rapidly in the Old Kingdom and the Eighteenth Dynasty, but certain of its aspects grew more exuberantly in other periods—priesthood in the Nineteenth Dynasty, mortuary practices in the Sixth, Eleventh and Twenty-first. The general lesson to be learned is that the various departments of culture show little correlation in their progress. In particular we should beware of confusing virtuosity, elaboration, and mass productivity. The work of craftsmen tended to deteriorate rather than to improve when they acquired new techniques and materials or tried to satisfy a larger market.

The course of Dynastic civilization followed no chronological rhythm. Four periods of high cultural achievement—Dynasties III-V (2980-2625), Dynasty XII (2000-1788), Dynasty XVIII (1580-1350), and Dynasty XXVI (663-525)—stand out clearly as separate and distinct phenomena, not the consecutive phases in a single evolution. Each of these developed after an era of disturbance: the first after the wars betyeen Upper and Lower Egypt that ended in their union; the second after a social revolution following the breakdown of the monarchy; the third after the Hyksos invasion; the fourth after the dissolution of the Empire and the intrusion of Ethiopian and Libyan kings. This intervening phase, however unstable and unproductive in itself, contributed in various positive ways to the spectacular growth that followed, and led up to it through a formative period of varying length—400 years for the First and Second Dynasties, 160 years for the Eleventh, a few decades for the Seventeenth, and 60 years for the Twenty-fifth. The era of disturbance was therefore a transition from one cultural phase to another, not an interruption in an otherwise continuous progress.

The civilization was closely integrated with Egypt as a land and a nation. Tribal peculiarities had been almost dissolved in national unity before the Pyramid Age. Local peculiarities remained in force, based on differences in physical environment between the Nile and the Delta and on the ancient social and religious autonomy of the townships, but they contributed to the total civilization rather than dividing it into local units. A native of any township could travel from the Cataracts to the Great Green and still feel that he was in his own country. With the barbarians beyond these boundaries he was ready to exchange merchandise but not ideas. Though Egypt had imported a great variety of materials from Asia and the Aegean since prehistoric times, and copied Asiatic tools, weapons, and mechanical techniques very extensively after the Hyksos invasion,

she derived from abroad few intellectual concepts and no major innovations in art, religion, or social organization. She thus presents a striking contrast to the eclectic cultures of Arabia and the rest of the Near East. Her insular character resulted from her close economic adjustment to the Nile, her geographical isolation between two deserts, and the cultural poverty of her immediate African neighbors. Long after her intellectual life had been Hellenized, the same character reasserted itself in the rise of Coptic nationalism. Perhaps the xenophobic spirit of the modern Egyptians is a similar manifestation in political guise.

Within the limits of this essay it is possible to mention only a few of the traits that remained constant throughout Dynastic history. Many of the economic features were predetermined by Egypt's position in a narrow, fertile valley, flooded once a year, between deserts of limestone and sandstone, and by the basic agricultural and industrial legacy which had proved adequate since predynastic times. The use of sun-dried brick instead of baked brick, for example, or of plaster and mortar made of gypsum instead of limestone, is the direct result of the scarcity of fuel. Since we are now concerned primarily with cultural change, we shall overlook all the features that were held constant by the physical environment, and consider only certain stable elements which owe their stability to no such constraint.

The symbolic system that reached its full development in the hieroglyphic writing, the rigid iconography and draftsmanship, and the architectural symbolism of the Pyramid Age, was maintained almost intact for more than three thousand years. Offhand I can think of no case where a similar complex has changed so little in so long a time. Chinese symbolism offers an analogy, but the system as developed under the Shang and Chou was vastly amplified by Buddhism; it was not as closely affiliated with graphic art as was the Egyptian system, and the word-signs lost their pictorial value when written by brush. The conservatism of the Egyptian symbolic complex may be attributed to the organized clergy, whose members controlled the work of scribes, artists, and architects; to the concept of physical durability as essential for personal immortality; and to the prevalence of stone as a medium for religious art. Though stone imposes few restrictions on artistic form, stone masonry and sculpture were very costly and could be executed most economically by following well-established rules. Since their primary function was symbolic rather than esthetic, a block of polished granite weighing several tons would scarcely be delivered to an imaginative virtuoso to chisel according to his fancy. All formal details of the piece were dictated by convention, leaving the artist free to show his skill only in their arrangement and in the subtle variations of modelling which distinguish good work from bad.

Hierglyphs, iconography, and artistic canons were thus handed down together through many generations of craftsmen.

Deities seem to have been identified more consistently by their symbols than by their personal traits or their mythical and moral functions. This is indicated by the ease with which they merged with each other to form triads, enneads, or composite solar divinities. We look in vain for any philosophical rationale behind this bewildering habit. It often had a political motive, to support the home-god of the ruling family or a certain college of priests. Apparently it did not disturb the devotee as long as he could still recognize the symbols of the deity, both graphic and ritualistic. Perhaps it was the overwhelming dominance of symbolism that prevented the Egyptians from creating a mythology as rich as that of the Greeks, or a religious philosophy as profound as that of the Semites or the Hindus.

One might also argue that it was the association of writing—both hieroglyphic and hieratic—in the complex of religious symbolism that inhibited its use in legal documents and personal correspondence. Though a large minority of the Egyptians were literate, they very seldom sent letters to each other or wrote contracts, receipts, and bills of sale such as were produced so commonly in the contemporary societies of Western Asia. Most of the documents that are not purely religious have a quasi-religious context—royal monuments, temple accounts, moral stories, medico-magical treatises, and so on.

We too often think of the ancient Egyptians as a nation of mummies. Viewing them in the *rigor mortis* of their tombs and denuded temples, we forget that they worked hard to make their livings, and that in their moments of relaxation they wore flowers in their hair, enjoyed acrobatic dancing, and got very drunk. Nevertheless, it would be vain to deny that they devoted an extraordinary amount of attention to the cult of death. This impressed many of their Greek and Roman visitors, from Herodotus on, and my notes on changes in mortuary practice make it evident for earlier times. While the essentials of the cult remained constant, artistic and technical details varied profusely. The pattern of a coffin, or the embalming and trappings of a mummy, can be assigned almost without question to the space of a few decades. In no other field did styles change so rapidly. This shows a great popular interest in mortuary fashions—an interest which seems to have been encouraged and exploited by a professional group. Fashions in funerals followed wealth and social rank, particularly after the First Intermediate Period, when commoners began to be buried with the royal rites of Osiris. The fact that the cult of death never became ancestor worship is another indication that kinship and inheritance were relatively unimportant in the social

scheme. But if we take the modern materialistic view, and interpret Egyptian funerals only as a means of "conspicuous consumption" for gaining prestige, we overlook the doctrines of resurrection and moral justification which had motivated the Osiris cult since the Old Kingdom. The Egyptians were afraid to die. They believed that personal immortality could be ensured not only by symbolic rituals but by good conduct during life. This faith prepared many of the humblest folk, as well as a few ostentatious aristocrats, for a Gospel which offered them salvation on much the same terms.

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BON: THE MAGICO-RELIGIOUS BELIEF OF THE TIBETAN-SPEAKING PEOPLES

LI AN-CHE

BON was the magico-religious belief in Tibet before the introduction of Buddhism into the land. But nowadays it has become so interfused with Tibetan Buddhism that nothing purely original is left in it and for practical purposes it may be taken as one of the different sects of Lamaism, which is the popular term used by the lay people outside Tibet and Mongolia to denote Tibetan Buddhism. Of course, the Lamas do not take Bonists into the fold of their fellow-believers, but the difference between them is simply a matter of form. For example, the Bonpo or Bonists keep the sacred objects to their left in circumambulation, while the Lamas of all denominations keep them to their right. Names of the deities and scriptures in Bonism [1] are different from those in Lamaism, but their functions and ideologies correspond.

Quoting a Bon scripture, the writer of a Tibetan history of religious sects [2] has the following to say: "In the present Kalpa (bsKal-pa[3]), when the life span of human beings gradually changes from infinity to ten years, there were eighteen Masters, such as Kun-bzaŋ, Thaŋ-ma-me-sGron, etc., to be born to enlighten the world." It was said that during the period when the normal length of human life was one hundred years, Gçen-rabs was born, as one of the eighteen Masters, in *h*ol-mo-luŋ-riŋ (also Ol-moi-gLiŋ) of Shaŋ-shuŋ, ancient name of ŋari Khorsum of western Tibet. It was he who founded the Bon faith in contradistinction to Chos (*the* religion according to the Buddhists, namely Buddhism). Some make him an incarnation of Buddha Sakyamuni or contemporaneous with him, while others ascribe to him an earlier date than Sakyamuni's. According to another Tibetan work of history, the Bē-ṭū-dKar-po, it was further recorded:

> To instruct [the inhabitants of] Shaŋ-shuŋ,
> [He] manifested himself as Gçen-rabs-mi-wo,
> Showing the twelve deeds.[4]

1 A term adopted by Tibetan scholars as a convenient means of indicating the characteristics of the Bon corpus of beliefs, although the latter is self-sufficient in Tibetan.

2 bLo-bzaŋ Chos-kyi-ñi-ma, *Grub-mTHah-çel-me* (Mirror of the Sects) (1801), pp. 164-169. The author is otherwise known as Thu*h*u-gan Hutuktu, a Grand Lama (Living Buddha) of Ningyu monastery (dGon-luŋ Byams-pa gLiŋ), who was born in 1737.

3 A fabulous period of time or the various ages of the world.

4 The twelve deeds are related of Buddha Sakyamuni, such as "to be conceived," "to be born," "to renounce the world," etc.

He pronounced the nine-vehicle doctrine [5]
To open the heavenly gate for the living,
To abolish the gate of destruction for the dead,
And to lead life to the path of gyuŋ-druŋ.[6]

A supplementary story was told of him in the classic work *Pad-ma bkah-thaŋ* (pp. 257-258), thus:

From the beginning of the Kalpa the masses were involved in the wheel of life, the sea of sorrow, through their misdeeds as a result of ignorance. ston-pa Gçen-rabs took pity on them, and emanating five sorts of rays from his palace in heaven, radiated light all over the world. He then changed himself into a cuckoo, blue in color as blue as sapphire, and musical in voice as melodious as an organ. Now in this form he alighted upon the head of the heavenly king (gnam-gyi-guŋ-rgyal), flapped his wings three times, and radiating white light of reddish lustre, disappeared into the head of his mother. When finally he was born, immediately he began to utter articulate speech and there were other signs of luck and bliss. Thus the practices of Buddha Sakyamuni had also their counterparts in Gçen-rabs' incarnation; namely, first to see whether the country into which he was born was worth while; secondly, whether his parents-to-be inherited a proper lineage; thirdly, which place was good for the propagation of his doctrine; and fourthly, how richly endowed were the masses with the privilege of receiving his doctrine.

As the records were kept by the Buddhists of Tibet, who were opposed in theory to the Bonpo (unfortunately I am not in possession of any Bon history of the Bonpo), and as such mythology was transmitted by them as exemplified above, it is evident that the founder of Bonism, Gçenrabs, had been taken as a marvelous person both by his opponents as well as his followers. It is generally agreed that Bon originally spread from Olmoluŋriŋ of Shaŋ-shuŋ and in the language of that place. Later, with the introduction of Buddhism into Tibet, there was mutual antagonism and infiltration and the burial and discovery of their original and adapted scriptures. This process accounts largely for the kind of distribution and change, for it should be noted that before the introduction of Buddhism—together with the adoption of Tibetan script from an Indian source after 641 (when the Chinese Princess Wench'eng was married to the Tibetan King Sroŋ-btsan-sgam-po)—there was no possibility of recording and transmitting any written scripture.

5 See later for an explanation.

6 The Bon counterpart of the Buddhist Vajra (rdorje), a sign of indestructibility. Das, in his *Tibetan-English Dictionary*, identifies it as the Sanskrit Svastika, the mystic cross, or as a monogrammatic symbol formed by the combination of two Pali syllables, signifying complete resignation under all circumstances. He also points out that the shape was latterly thought to be derived from the sun, a circle enclosing a cross.

It was believed that before the appearance of Gçenrabs there existed in Tibet all sorts of demons harmful to the people. It was he, so the legends [7] go, that made these harmful beings subservient to human interest. He was reported to have visited many places. For example, gser-khaη-rtse of On-mdah, which was later built into the monastery of mηah-ris; the mountain Ri-bo-rin-chen-spuη-pa; and the sacred mountain Bonri situated to the east of Buchulhakhaη of Koηpo province—these are particularly recorded. He had many disciples, the most intimately connected being Mu-gsho-ldem-drug, while other noted ones were Mu-tsa-tra-he-se, Khri-thog-bar-tsam, and hɢu-hi-lispar-ma of Persia; Lha-bdag-sηags-dro of India; Legs-taη-smaηs-pa of China; Ldem-gyin-tsha-smaη-dge of Tsang (the western part of Tibet); Mu-sbuηs-gsaη-taη of Bum-pa and Sha-rabu-chen of Shaη-shuη; and gser-rdog-lce-hbyams of Khrom and Ice-tsha-gar-dgu of Mi-fiag (places in Kham or Sikang). All helped to propogate Bon to the different quarters of West China and made it glorious.

The development of Bon may be divided into three stages: (1) *brɒ*ol-bon (or *h*ɒsol-bon according to Das) from the time of gÑah-khri-btsan-po, the first historical king of Tibet, down to the reign of the sixth king, Khri-sde-btsan-po; (2) *h*ʁyar-bon, from the reign of King Gri-gum-btsan-po to the formal introduction of Buddhism under King Sroη-tsan-sgam-po; and (3) *b*sɢyur-bon, from King Sroηtsan's time down to that of Tsong-kha-pa (1357-1419), founder of the Reformed or Yellow Sect of Lamaism.

During the first stage there was a lad of the Gçen lineage (rus-gçen) at *H*am-çod-*h*on of Ü (dbus or central Tibet wherein Lhasa is situated), who, at the age of thirteen, was possessed by a demon. This lasted for thirteen years, while he moved around all over Kham and Tibet. At the age of twenty-six he came to himself with the power to see such and such a place inhabited by such and such demons for the benefit or harm of the people. He propogated the idea and methods of propitiation and subjugation of the demons. Thus originated the primitive practices of Bon to deal with demons in the under world, to worship deities in heaven, and to work for the welfare of the people in between. It was generally believed that for twenty-six reigns—from gÑah-kri-stsan-po to Khri-sde-btsan-po—primitive Bon prevailed, while more profound theories and practices had to wait for a later period to develop. This primitive Bon is otherwise known as the Black Sect (chab-nag), which is also the name of a monastery in Kongpo in eastern Tibet.

During the second stage there was a serious disturbance caused by demons in the reign of King Gri-gum-btsan-po, which all the Bon adepts then available

7 See the *Bon-sgo-bshi-mdsod-lɳa* (The Four Gates and Five Treasures of Bon).

were incapable of coping with. Consequently three masters were invited—one each from Kha-che (Kashmir), Bru-ça (northwest of Tibet), and Shaŋ-shuŋ—to exercise greater magic. One was able to fly in the sky sitting on a drum and to cut iron into pieces with a feather. Another was able to perform divination by drawing lots with threads of different colors (ju-thig), and, by means of divine words (lha-bkah) and "red life" (srog-dmar), to determine good or bad luck for the people. The third was able to drive away the evil following the death of any one, to subdue all sorts of demons, and was versed in all kinds of magic. Before the arrival of these three, Tibetan Bonism was not noted for any particular theory. From then on, Bonism might be compared with the viewpoints of the Lha-dbaŋ-phyug-chen-po school of Hinduism (Maheśvara) or the "Great Heaven of Freedom."

The third stage of Bonist development may be divided into three sub-stages: the earlier Bsgyur-bon, the middle Bsgyur-bon, and the later Bsgyur-bon. The earlier Bsgyur-bon was traditionally ascribed to a Blue-apron Savant (çam-thabs-sŋon-po-can) for its origin. Having buried some texts of an unorthodox sort by himself, he pretended to excavate an alleged secret treasure, and this was embodied into Bonism. He was also known to have invented texts for carnal knowledge and emancipation by killing. The middle Bsgyur-bon was developed in the reign of King Khri-sroŋ-lde-btsan, son of the Chinese Princess Chinch'eng who was married to King Khri-sde-gtsug-brtan in 710.

Khri-sroŋ-lde-btsan's reign began in 737. He first invited both Buddhists and Bonists to his domain, but later favored the former at the expense of the latter. Under suppression, Bonism adapted to itself a great deal of Buddhism by translating and incorporating it into its own system. According to the *Padma-bkah-thaŋ* (pp. 134-135), of the Buddhists he invited, there were eighteen noted ones from India, six from China;[8] and of the Bonists, there were seven from Shaŋ-shuŋ and other places and of different denominations. All of them were gathered together at Ah-rya-pa-lo-gliŋ, a college of Samyas Monastery which was built in 762-766.[9] They were commanded to put Bonism into scriptural writing. The king also ordered the Bonists to officiate at a ceremony. For this purpose a deer

8 They were Pha-saŋ-khri-gsher-sam-ça, Monk Mahahradsa, Monk Debachen, Monk Mahahyahna, Philosopher Haranagpo, and Monk Mahahsuhtra. These Chinese Buddhists had an influence of great importance. But later they were expelled from Tibet, being defeated in a controversy by those from India. Since then Chinese Buddhistic culture has not been able to exert any influence on Tibetan Buddhistic theory, although Chinese monks did help the revival of Tibetan Buddhism after its destruction by King Lang-darma in the ninth century.

9 Dates here adopted in accordance with Tibeto-Chinese calendar are different from Waddell's.

was killed as the principal victim, together with many cattle and sheep as offering. The Buddhists made protest against killing on such a large scale, saying to the king: "Bonism is entirely opposed to Buddhism. In so far as these two cannot both be dominant in one religion, and no two kings should co-exist in one kingdom, we cannot associate and coöperate with the Bonist criminals. We wish that you would send us back to our native lands." But the king explained by saying: "Formerly there was great strife between Bonism and Buddhism. But because the former was stronger than the latter, many noted Buddhist translaters were consequently expelled. You had better not oppose Bonism, so that both may be propagated." Then the Buddhists became taciturn, even refusing to preach.

On the deaths of *R*gyal-ba*h*i-blo-gros's mother and an important minister Tara-klu-goη, however, both parties performed rituals for the benefit of the dead. Seeing the superiority of the Buddhistic one, the king was favorably impressed by it and began to suspect the impotency of Bonism. Thus he instituted an open competition in wonder-working between them at Don-mkhar-thaη, in which the Bonists were defeated. In an open debate, Padma-sambhava, founder of Tibetan Buddhism, engaged the two Bonists from Thaη-nag; while Abbot Sānta-rakshita dealt with Çarii-dbu-chen, etc., forming three sets against one another. This also resulted in the defeat of the Bonists.

All the Bonists of the country then were summoned to muster at Khams-gsum-na-gar and were ordered to have their hair in braids, to wear fox fur on their heads, to take a half-drum in the hand, to put on civilian clothes, and to eat coarse food—thus to be demoted to the rank and file of laymen. Bloody sacrifices were no longer permitted. But printed images of the same were adopted instead for the purpose of propitiation. Many Bonists were driven out of such places in Upper Tibet as Bye-ma-gyuη-druη, Rtswa-mi, etc., and even to Spre*h*u-slag-can of Mongolia. Since then whoever killed animate beings was classified as a professional butcher and considered a social outcast.

At this time, when Bonism was suppressed in favor of Buddhism, a particular monk by the name of Saηs-rgyas-byaη-chub was offended by a fine imposed by the king. As a measure of revenge, he adapted a certain Buddhist scripture to Bonism. This became known to the king, who ordered that anyone who dared degrade Buddhism by adapting its writings to Bonism was to be killed. Consequently such adaptations were buried in caves to escape detection. These, when discovered later, became known as Bonist treasures. Thus Bonism was modified by Buddhism through the adoption of the latter in this way, characteristic of the middle Bsgyur-bon.

The later Bsgyur-bon embodies another wave of disguised borrowing from

Buddhism on a still larger scale. This happened after King Laŋdarma's suppression of Buddhism in the years 837-842.

Gçen-rgur-klu-dgah, a native of Ña*ŋ*-stod in Tsang, adapted many Buddhistic writings to Bonism at Sgro-lag, a Bonist center at Dar-yul of Ü. For instance, the *Pha-rol-tu-phyin-pa* (Pāramitā in 100,000 verses) was changed into the *Kham-chen* of Bonism, that of 25,000 verses into the *Kham-chu*ŋ, the *Gtan-la-dbab-pa* (transcendental knowledge) into the *Bon-mdo,* and the *Five Dharanis* (mystic formulas) into the *Klu-hbum-dkar-nag* (100,000 white and black dragons). A different system of terminology and phraseology was adopted in Bonism to differentiate itself from Buddhism.[10] All these were embedded beneath the rocks of the Mtsho-l*ŋ*a-hdre*h*u-chu*ŋ*, and not long after were excavated as discoveries by the same agency. Following the example of Gçen-rgyur-klu-dgah, the Bonists of Khyu*ŋ*-po made further adaptations.

The third stage of Bonism, including all the sub-stages outlined above, is also popularly known as the White Sect (chab-dkar). There was scarcely any Buddhistic literature which was not assimilated to Bonism by this time.

Apart from the whole set of the Buddhist Canon (Kah-gyur), which has its counterpart in Bonism, Bonist literature may be classified according to its point of view, introspection, bodily discipline, lay services, spiritual identification, tutelary deities, cosmology, and mental-physical attainments.

So far as the point of view of Bonism in general is concerned, there are such works as the *Most Precious Golden Garland* (rdsot-pa*h*i-rin-chen-gser-gyi-phre*ŋ*-pa), *Basic Commentary on the Sharp Blade* (rtsa-hgel-rlu*ŋ*-gi-spu-gri), *Wheel of Light* (man-*ŋ*ag-hkhor-lo-*h*od-gsal), etc.

Introspective works include the *Nine Kinds of Self-change of the Aggregates in the Semen Virile* (phu*ŋ*po-ra*ŋ*-hgyur-thig-le-dgu-skor), the *Golden Point* (gser-thig), *On Self-knowledge* (lu*ŋ*-sems-ñams-myo*ŋ*), the *White Book on Direct Instruction through Inspiration*[11] (sems-lu*ŋ*-ye-khrid-dkar-po), etc.

The following are books on discipline: *Treatise on the Determination of the Eight Realms* (khams-brgyad-gtan-la-phab-pa*h*i-hbum), the *Ten Stages of Attainment of Yungdrung* (gyu*ŋ*-dru*ŋ*-bcu-lam-gyi-hbum), *Pure Conduct* (rnam-

10 For example, Enlightenment is called gçen-rabs; the Three Bodies (Dharma-kaya or Law-body, Samghoga-kaya or Compensation-body, Nirmana-kaya or Transformed-body) are respectively called Bon-sku, Kun-tu-bza*ŋ*-po, and Srid-pa-sa*ŋ*-po; Wisdom Goddess is called Sa-tri-e-sa*ŋ*; the Solitary Saint (Arhat), Gçen-sras; Bya*ŋ*-chub-sems-dpah (Bodhisattwa), Gyu*ŋ*-dru*ŋ*-sems-dpah; Lama, dson-gsas; Void, ha-me-ñid; and the ten stages of enlightenment of the Bodhisattwas are differently named; and so forth.

11 In the sense of communication through the direct contact of minds without verbal articulation.

dag-tshul-khrims-hdul-ba*hi*-hbum), *Accumulation of Merits* (dge-rgyas-tshot-chen-rdsot-pa*hi*-hbum), *Curing of Black Disease* (nad-hbum-nag-po), *Life Enrichment* (tshe-hbum-khra-bo), *White Medical Care* (sman-hbum-dkar-po), *Black Exorcism* (gto-hbum-nag-po), etc.

For the services of the laity there are: 360 kinds of exorcism (dto-thabs), 84,000 methods of observation, such as astrology, divination, physiognomy, etc. (dpyad-thabs), 4 methods of mediation (gyer-sgom), 8 lamentations (skad-coη), 360 funeral ceremonies (çid-thabs), 81 methods to subdue demons (hdul-thabs), etc.

For the art of spiritual identification with some tutelary deities there are such books as: the *Comprehensive Treasure of Bonism* (sbyi-sbuηs-bon-mdsod), *Nine Classes of the Fearful Fathers* (pha-rgyud-drag-po-dgu-hdus), *Nine Sun-mothers* (ma-rgyud-ñi-ma-dgu-çar), the *Boundless Fierce Ones* (khro-rgyud-mdo-chen-hbyams-pa), etc.

Their tutelary and guardian deities who are worshipped include: Srog-gi-sag-gdar, Drwa-ba-spu-gri, Dal-hbyams-ma-mo*hi*-khrag-sgrob, together with seven messengers, demons, ghouls, evil spirits, sea dragons, evil stars, Maheśvara, etc.

So far as their cosmology is concerned, some believe in the primordial Void (ye-med), out of which derived Being in itself (ye-yod), which in turn gave rise to clear white frost, which again resulted in crystal dew. Out of this liquid, the whole universe was evolved. Others say that animate beings were hatched out of eggs; whereas another group believe in their creation by Fate or Maheśvara. The Bonist books of exorcism and propitiation are full of allusions of this sort.

According to the *Basic Treasures of Bonist Treatises* (hdus-pa-rin-po-che*hi*-rgyud),

> the wordly hold on to Being, while the sophisticated indulge in Void. But both are mental constructions. Without indulgence but with vigilance, there is transcendental Wisdom. With indwelling awareness but without too much discrimination, there is universal Insight. This is what is to be aimed at in any spiritual attainment, which brings about emancipation.

For it is remarked elsewhere that the Ultimate Reality is only Suchness.[12] It is not the whole visible universe, but it can reflect anything in it. The realization of Suchness means emancipation; while the holding on to the phenomenal world

12 Suchness is a technical Buddhist term meaning Reality in a transcendental sense, in contrast with Illusions which result from our way of looking at things (prejudiced with the distinction between the knower, the knowing, and the known). Direct apprehension of Suchness is absolute in the sense that it cannot be modified by logical analysis.

entangles you in the chain of births and deaths. In this respect it is evident that there is not much difference between Bonism and Buddhism.

The Bonist mental-physical attainments, similar to those of esoteric Buddhism, presuppose an imaginary anatomy. The heart is supposed to have eight artery petals, in the center of which there are five roots intertwined with threads of five colors, emanating the Five Wisdoms out of the Bon Body of Light. This Body is not an entity. Therefore it does not fall in the category of Being. Neither is it Void, because it radiates light. It is self-existent, absolute, and inconceivable of being related to any other cause. But its function gives sound, light, and rays, which permeate the phenomenal world through the three deeds (body, speech, mind) and the six senses (sight, sound, smell, taste, touch, law). To observe this Bon Body of Light internally, one should get rid of the distinction between the subjective and the objective. It requires only spontaneous selfless intuition. This subjectless-objectless intuition may be achieved by three means.

First, being seated. With a sitting posture, the aspirant tries to concentrate his mind at certain times of the day. In the initial stage concentration is more difficult than rambling thoughts. Later, thoughts are better controlled than before, until meditation is deep and undisturbed. Finally meditation is possible whenever wanted, and the mind becomes normal again whenever it is necessary to cope with worldly affairs.

Secondly, spontaneous effort. This is a stage when in meditation one is face to face with a situation where the senses are no longer the fixed channels of knowledge. The mind becomes effortless when there is nothing to control and nothing to concentrate upon. It is released from all shackles.

Thirdly, free from all logical distinctions such as the knower, the knowing process, and the known. The Mind *is* the Bon-body, being self-evident, and permeating into all the phenomena and changing them into Wisdom. This is certainly borrowed from the Great Completion School of the Ningma Sect of Lamaism (rñiŋ-ma*h*i-rdsogs-chen-pa), the counterpart of the Chinese Ch'an School or the Japanese Zen Buddhism.

Now, regarding the Nine-vehicle Doctrine of Bonism, there are four vehicles related to cause, four related to result, and one of the supreme nature.

According to a Bonist work, the *Gshuŋ-bsraŋ*, and a Buddhist history, the *Padma-bkah-thaŋ*, the four vehicles related to cause are the following: (1) Phywa-gçen, taught by the goddesses Skyes-bu-ber and Ta-khu-sbyid-miŋ-ske, in which there are 360 methods of exorcism and propitiation (lto-rigs) and 84,000 kinds of observation (dpyad-rigs); (2) Snaŋ-gçen, taught by the deity Gyer-sgrog-gar-gsas-btsan-po*h*i-lha with regard to men and gods for the purpose of

assisting the temporal government, which expounds 4 methods of meditation (gyer-sgom), 8 prayers (skad-kyi-lcoŋ), and 42 methods of bleeding (gtah-rag); (3) Hphrul-gçen, after the teaching of Sbas-gsas-rŋam-pa, on 13 kinds of wonder-working and 6 great expediencies, with a principle work called the *Lha-byaŋ-rdsu-hphrul;* and (4) Srid-gçen or Dur-gçen, after the teaching of Hdur-gsas-spa-po, on 360 funeral ceremonies, 4 burials, and 81 methods to subdue demons.

Of the four vehicles related to result, (5) Dge-gçen or Dge-bsñen was taught by the Omnicient Lord (Ye-mkhyen-hphrul-rgyal or Kun-çes-hphrul-rgyal-po), expounding the methodology of emancipation for the animate world, including theories of the four kinds of happiness, two sorts of purity, and three great antidotes to miseries; (6) Gçen-gyi-draŋ-sroŋ has for its principal object the rules of discipline after the tradition of Theg-drug-gyuŋ-druŋ-tshe-yi-rgyal-po, including ten methods of putting a stop to transitory existence, two expressions, two sorts of shame, and three methodological attainments; (7) Gçen-gyi-a-dkar was taught by the Lord of Mysticism (Gsaŋ-hdus-pa) to transmit Tantrism of Bon; and (8) Ye-gçen was taught by Guŋ-druŋ-ye-dbaŋ-rgyal-po to expound the four intuitive methods, sixty kinds of meditation, and sixty omens.

The Most Supreme Vehicle or (9) Khyad-par-chen-po was taught by Tshad-med-*h*od-ldan. It is the nucleus of Bonism, worshipping the three Tutelaries (yidam), and embodied in the *Five Essential Methods.*

The four vehicles relating to cause are meant to remove the barriers to true knowledge caused by the conventional distinction between the knower and the known. Of the four vehicles relating to result, the first two (5 and 6) are to remove the impediments (bar-chod) caused by preconceived ideas or what has been known, while the other two (7 and 8) remove those caused by moral miseries such as wrath, spite, ostentation, etc. The last vehicle brings about Divine Wisdom.

Again, by means of the first four vehicles, the aspirant attains to the first four stages of spiritual progress, after transmigrations in innumerable Kalpas. The first two of the four vehicles relating to result bring about emancipation at the end of the aspirant's efforts through three Kalpas, whereas the other two have the same effect on an aspirant after his present birth. But the last vehicle enables one to attain the Bon-body (equivalent to Buddhahood) right within one's life time.

So much for a documentary summary of the historical development and theories of Bonism, based largely on Buddhistic sources which may sometimes

quote from the Bonist works.[13] To supplement this with my field observations, I may conclude with illustrations concerning the Steŋ-chen-dgon, a Bonist monastery in Dsa-khog, a subdistrict of Dege Hsien, Sikang Province. First of all, it is of interest to note that the Abbot there, Gyu-sprul-tshe-dbaŋ by name, refused to recognize any schools within Bonism. The monastery itself has all the appearance of any lamasery in Sikang, while all the inmates look exactly like the ordinary Lamas. This may be accounted for by its close relationship with the Ningma Sect of Lamaism. In fact, the painted images look very familiar too, only much more grotesque. The images with wings to denote Wisdom and Power were first seen before I had become acquainted with those exhibited in any Ningma monastery. The whole pantheon is classified, in the same way as Lamaic Buddhism, into three categories: the serene (shi-ba), as we ordinarily see in temples in other parts of China, which are objects of worship in exoteric Buddhism; the fierce (drag-po), which are characteristic of esotericism; and the Lord of Mysticism or the principal deity in Tantrism.

Images of pure Buddhism, such as the Buddha, Maitreya (Jampa, the Loving One or Buddha to come), the One with White Umbrella (gdugs-dkar), etc., are worshipped in Steŋ-chen-dgon together with those of Bonist deities. Of their special Defenders, Srid-pa-rgyal-mo (Queen of the World) is comparable to the Lamaic goddess Lhamo and Rgyal-po-duŋ-rtog to the Lamaic personification of body, speech, mind, karma (causality), and achievement.

The monks of the Bon monastery are also similarly classified. The Grand Living Buddha and the Abbot bear the same generic names as in Lamaism. The fully ordained monk is called Draŋ-sroŋ in contrast with the Lamaic Dge-sloŋ; the novice monk who takes thirty-six vows is called Gtsaŋ-tskul, while the Lamaic name is Dge-tshul; the leader in religious practice is Sgrub-gtso; the supervisor in the chanting hall, Dge-skos; his assistant, Dge-gyog; the leader in chanting, Um-dse (dbu-mdsad); and the attendant in the temple, Grwa-gñer; the names being either identical with or similar to those in Lamaism.

Now, this Bonist monastery is the center of its kind in Sikang, struggling for existence with the growing domination of the Reformed Church of Lamaism or

13 A Bonist history, *Legs-bçad-rin-po-chehi-mdsod-dpyod-lŋan-dgah-bahi-char-shes-bya-babchugs-so* by Çar-rdsa-rin-po-chen, which I saw at the Bonist monastery of Steŋ-chen-dgon but which I do not have in possession, explained the co-existence of Bonism with Buddhism by citing a story of a different sort. As a result of suppression of Bonism under King Khri-sroŋ-sde-btsan, there occurred all kinds of calamities including the illness of the king himself. An oracle was sought after and carried out to the effect that both Bonism and Buddhism were allowed to spread hand in hand, equal in efficacy, but different in form. This is borne out by the findings of Mr Ma Ch'ang-shou in his article on *The Origins of Bon* (The Ethnological Researches, vol. 3, December 1942 [in Chinese]).

Gelugpa, which was founded by Tsongkhapa (1357-1419). In the same way as any monastery of the several sects of Lamaism, Steŋ-chen-dgon has its own sphere of influence, enlisting its members from the seventy families of four villages, namely ŋaduŋsuŋ, Shoto, Raŋani, and Denuŋ. It was due to conflict with the Gelugpa monastery in the neighborhood that the former site of Steŋ-chen-dgon was destroyed. The present construction is not as grand as the one which was razed to the ground.

There are two "Living Buddhas" or Transformed Bodies at the monastery: Çar-rdsa-rin-po-chen, the founder, and Dri-med-*h*od-zer-yin, second in rank. The former died in 1940, his reincarnation being not as yet reinstated. The latter, the twenty-fourth incarnation, was going around to collect alms when we visited the place in 1944. The Abbot mentioned above takes charge of the monastery. He has been in abbotship off and on for some twelve years. Like others in the monasteries of Sikang who have to spend a few years at some more famous seats of learning, he studied at Sman-ri-dgon-pa, *the* center of Bonism situated near Tashi-lhunpo, the seat of Panchen Lama who is only next in importance to Dalai.

While the most famous lamaseries offer degrees for scholarship, Steŋ-chen-dgon is too small to have enough inmates for proper selection. This is also true of other lesser lamaseries in Sikang. This is why the monks have to spend some years in study elsewhere. Inbreeding, in other words, is something to be corrected by wider contact with centers of higher academic standing. Bonist student-monks are also regularly examined, according to the Abbot's story, here at Steŋ-chen-dgon, but no degrees are offered. Examination takes place at a branch monastery nearby, under the supervision of the Transformed Body or Grand Lama.

True to the practice of Lamaic centers, Steŋ-chen-dgon has also its public festivities. On the 28th and 29th of the twelfth moon, New Year is celebrated. Impersonation of the Fierce One (Drag-po) and his eighty-eight attendants is staged for the suppression of the Evil.

The 5th of the first moon is the anniversary of the death of Rje-mñam-med-çes-rab-rgyal-mtshan, a famous Bonist master who was considered the Tsongkhapa of Bonism. On this day buttered figures are exhibited as a form of worship and illuminated by numerous lamps. On the 15th of the same month the Great Prayer Meeting takes place. But instead of Sacred Dances inevitably staged in lamaseries, the Bonist *bĸah-hgyur* or Canon and *bsтan-hgyur* or Commentaries are circumambulated counterclockwise, which is another form of worship.

On the 10th of the fourth moon occurs the Sacred Dance to dramatize the gods Lha-chen-yab-sras-gsum, the Bonist counterparts of the Lamaic Fearful Thunderbolt or Yamantaka (Rdo-rje-jigs-byed).

Beginning with the 15th of the sixth moon or on the summer solstice, a period of retreat for one month and a half is observed.

On the 28th and 29th of the tenth moon there is another Sacred Dance to dramatize the Fierce One in the same way as that in the twelfth moon.

So far as its influence on laymen's activities is concerned, Bonism has the same mechanisms as Lamaism. For instance, both cause huge piles of stones to be heaped up as objects for circumambulation, and both invent magic formulas to be recited constantly. The only difference lies in that circumambulation for one is clockwise and for the other counterclockwise, as mentioned above, and that formulas carved on the stones and mumbled on the lips are usually for one the six-syllabled "Om mani padme hum" and for the other the eight-syllabled "Om madri muye sale-hdu."

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GREETING FORMS OF THE GULF AZTECS

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AZTEC SPEAKERS of Mecayapan, Veracruz, Mexico, employ a definitely prescribed set of greeting forms, selected on the basis of the sex, age, and mutual relationship of the individuals concerned. This paper discusses the linguistic forms and certain features of the non-linguistic situations which accompany them.[1]

GREETING DIALOGUES

Greetings between a man or woman and his or her compadre [2] or comadre are in the form of extended dialogues accompanied by a special type of handshake. Since a person may have a number of compadres and comadres, there are frequent occasions in which the dialogues are used.

Each compadre or comadre must be greeted individually even when several are together in one group. On one occasion, witnessed by the author, nine men were carrying a log towards the village when they were met on the trail by another man who was compadre of several of the carriers. It was not sufficient for him to greet each of the carriers with the prescribed dialogue, but in addition he had to give the proper handshake to each one while all of the men continued to hold the log. The drollery of the scene was obvious to all.

In presenting the following dialogues both a literal translation and a free translation (in parenthesis) are given.

The following greeting-dialogue is used between two compadres:

1st compadre:	ke tal	kompadre	ači	yekti
	what so	*compadre*	*little*	*good*
	(*How goes it, compadre? A little better?*)			
2nd compadre:	ya	tikita	ači	alibiado
	already	*you-it-see*	*little*	*alleviated*
	(*Just so-so; a little better.*)			

1 The writer has checked with several other investigators in three dialects of Aztec and found nothing similar to the system of greetings described in this article. Those checked with were Richard Pittman, Herbert Whealy, and Arch McKinlay, all of the Summer Institute of Linguistics.

2 A compadre is a co-godfather. At the baptism of a child the godfather and the child's father become mutual compadres. The same applies to the godmother and the child's mother, who become mutual comadres. Juan Salas, the author's informant, indicated that he had more than thirty compadres. He has seven children, one of his sisters has seven children, and another has six. Apparently the brother's compadres are his compadres, too; the system is so complex that much study is required to understand it.

Both compadres in unison: piali kompadre
(greeting form) *compadre*
(*Good day to you, compadre.*)

During the exchange of this greeting a formally prescribed type of handshake is used. This consists of each person extending his hand to the other and grasping the other's lightly at about waist height. It contrasts with the normal type in the United States in its lack of movement and looseness of grasp. As the dialogue ends the grip is released and some type of informal conversation begins. The same handshake occurs with the other greeting-dialogue described immediately below.

The following greeting-dialogue is used between two comadres:

1st comadre: te kihtowa noye
what *it-says* *my-mother*
(*What do you say, mother?*)

2nd comadre: atei
nothing
(*Nothing.*)

Both comadres in unison: pialkomadre
(greeting form) *-comadre*

pianoye
(greeting form) *-my-mother*
(*Good day to you, comadre.*)

The following greeting-dialogue is used between a compadre and his comadre:

Compadre: te kihtowa komadre
what *it-says* *comadre*
(*What do you say, comadre?*)

Comadre: atei notah
nothing *my-father*
(*Nothing, my father.*)

Compadre: piali komadre pianoh senyora
(greeting form) *comadre* (greeting form) *madam*
(*Good day to you, comadre.*)

Comadre: piampale pianotah
(greeting form) (greeting form)
(*Good day to you, compadre.*)

During the exchange of this greeting another formally prescribed type of handshake is used. Either one may greet the other first, but the initiator must begin the ensuing gestures in the proper manner and time his spoken words to the motions. The initiator takes the right hand of the other, and saying the appropriate words, pushes the other's hand away from him. To this the other responds with the appropriate words. The first one then answers with the appropriate words, the meanwhile pulling the other's hand towards him for the first part and pushing it away again for the second part. The second then responds with the appropriate words without further moving of the hands.

The morphemes other than Spanish loans in the preceding dialogues are the following:

ači morpheme word meaning *somewhat* or *little.*

yekti two-morpheme word meaning *good.* The analysis of the form is not clear, but the following possibility is suggested: yek- / -ye?- noun stem meaning *good,* -ti nominal suffix indicating singular.

ti- second person singular verbal prefix.

(-)k- definite object prefix for transitive verbs. Usually the definite object is specifically expressed elsewhere in the phrase. Prefix (-)k- always appears in the verb -ita- *to see* (something); contrast prefix (-)ta- which always appears with the transitive verb -čisto- *to look at* (something in general).

-ita- stem of the verb *to see* (something).

pia- verb stem *to have.* All the shorter greetings have pia- as their base.

-li benefactive suffix for verbs.

te interrogative morpheme word meaning *what?.*

-ihto- verb stem *to say.*

-wa durative suffix for the present tense.

no- first person singular possessive prefix for nouns.

-ye noun stem meaning *mother.*

atei means *nothing.* The word is probably composed of two morphemes, namely: a- negative prefix with certain noun and all verb stems, and -tei / te, meaning *anything* or *something.* Cf. the interrogative te *what?.*

-tah morpheme noun stem meaning *father.*

-mpale *compadre,* a Spanish loan, phonetically modified.

SHORTER GREETING-RESPONSE COMPLEXES

Persons who have no compadre or comadre relationship employ one of a number of shorter greeting-response complexes. Ordinarily no handshake is used in the exchange of these greetings. However, due to the influence of the Mexican culture nearby, the common handshake is being introduced into the society. The forms of these greeting-response complexes are probably the result of fusion between a verb (pia- *to have*) and a possessed noun of address.

The following is a complete list of the formal greetings (other than the dialogues), classified according to the speaker indicated. For every greeting there is a fixed and corresponding response.

Greetings in which a man addresses a man:

Man addresses man (of similar age): piali ermano
Man (of similar age) responds: piali ermano

Young man addresses man or old man: pianoko
Old man or man responds: pialitah

Man addresses old man: pianotah
Old man responds: pianopi

Old man or man addresses young man: pianopi / pialitah
Young man responds: pianotah / pianoko

Greetings in which a man addresses a woman:

Young man addresses woman or old woman: pialipi
Old woman or woman responds: piatah¢in.

Man addresses old woman: pianoh
Old woman responds: pianopi

Old man or man addresses young woman: pianopi / piaye¢in
Young woman responds: pianotah / pianoko

Greetings in which a woman addresses a woman:

Young woman addresses woman or old woman: piapipi
Woman or old woman responds: piaye¢in

Woman addresses old woman: pianoh
Old woman responds: pianopi

Old woman or woman addresses young woman: piaye¢in / pianopi
Young woman responds: piaye¢in

Greetings in which a woman addresses a man:

Woman addresses old man: pianotah
Old man responds: pianopi
Old woman addresses man: pianopi / piatahɬin
Man responds: pianoh / pialipi

The shorter greetings and responses may be divided into four classes on the basis of morphological structure. All the forms are based on the verb stem pia- *to have.*

Class 1 are those which contain the morpheme -li benefactive. The forms are:

pialipi (pia- *to have,* -li- benefactive, -pi *aunt*), greeting of young man to woman or old woman, or greeting of man to old woman.

pialitah (-tah *father*), greeting or response of old man to man or young man, or greeting or response of man to young man.

Class 2 are those which contain the morpheme -no- first person singular possessive *my*. The forms are:

pianoh (pia- *to have,* -noh / -no- first person singular possessive *my* without possessed item expressed), greeting of a man or woman to old woman.

pianopi (-pi *offspring* is never word final except in these greetings. Elsewhere it is always word medial.) Response of old man to man, or old woman to woman, etc.

Class 3 are those which consist of stems plus diminutive suffix -ɬin. The forms are:

piatahɬin (pia- *to have,* -tah- *father,* -ɬin diminutive), response of old woman to man or young man, or response of woman to young man.

piayeɬin (-ye- *mother*), greeting of old man or old woman to woman, or greeting of man or woman to young woman, etc.

Class 4 contains the one form piapipi (pia- *to have,* -pipi complete reduplication of -pi *aunt*), greeting and response of young woman to old woman or woman.

NON-LINGUISTIC SITUATIONS WHICH ACCOMPANY GREETINGS

Normally the greeting-dialogues take place in one of the following situations: in the house or its immediate vicinity, on the trail between villages or on the way to the cornfield, or in the municipal office or in the church.

As a visitor comes to a house, the occupant quickly looks for a chair, box, or a native stool on which his guest may sit. Approaching the house the guest may ask the other person some common question as "What are you doing?" When the two are near enough they exchange greetings with the proper dialogue.

The guest is invited to enter the house and sit down. He enters saying, "With your permission I enter." If others are present, the appropriate greetings must be exchanged before he sits down.

One example of greetings exchanged on the trail has been cited already. Usually these greetings are said merely in passing, prefaced by some common question such as "Where are you going?" and accompanied by the customary handshake. Since whole families often go to the cornfield together a great variety of greetings are heard on the trails.

In the town's official buildings (municipal office and church) formality is the rule. There the greetings are exchanged in their simplest yet formal manner. In the municipal building the secretary is seated behind his "desk"; the president (town mayor) is seated to his left, his chair tipped back against the wall. A bench or two is placed so that the people who come on business may sit facing the officials. Occasionally other officials are present and if so they are seated at a desk near the secretary. When one of the townspeople comes to see the president or some other official, he enters through one of the side doors and crosses the room to greet the president first. If the president is not there, the secretary or other high official would be greeted first. After the officials have been greeted, he turns to the other townspeople present and greets them. Then he is invited to sit down. All the greetings that are used are the regular, appropriate formal greetings commonly used in the village. Not even yet can he transact his business. He must await his turn, which may mean several hours of sitting. Often people from other villages come on official business. Where the greetings are still used in other villages,[3] the residents use them when in the village of Mecayapan. Residents of other villages use the regular Spanish greetings in their home communities.

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3 The author's informant reports that the residents of only five other villages in the region still use the greetings. These are Ixhuapan, Chamilpa, Sochiapan, Ocotal Texisapan, and Encinal Amarilla. People in other nearby villages now greet one another in Spanish. Among these latter are Tatahuicapan, Huasuntlan, and Pajapam. The first two of the latter group, along with all five of the first group, are "congregaciones" of Mecayapan. Pajapam and several others farther away (e. g. Jáltipan) speak a slightly different dialect and apparently have no remnant of the formal Aztec greetings—if they ever were used in those villages.

LAGENARIA: A PRE-COLUMBIAN CULTIVATED PLANT IN THE AMERICAS

THOMAS W. WHITAKER *

INTRODUCTION

THE WHITE-FLOWERED GOURD, *Lagenaria siceraria* (Molina) Standl., occupies a strategic position with respect to theories of cultural diffusion between the New and Old Worlds. Its importance was recognized by Safford [1] who stated, "from an archaeological point of view *Cucurbita Lagenaria* [*L. siceraria*] is perhaps the most interesting of the economic plants, since it undoubtedly occurred in Europe, Asia, Africa and Polynesia, as well as America in pre-Columbian times." It is generally considered to be the only cultivated plant common to both hemispheres prior to 1492. A study of the distribution and variability of the gourd in pre-Columbian times should provide a helpful background of information for unraveling some of the puzzling problems connected with cultural diffusion and the domestication of plants.

In a study of this kind we have access to three sources of data: (a) Archaeological—material obtained from pre-Columbian excavations, e.g. the excavations of the pre-Inca ruins of Peru, the Basket Maker and Pueblo in the southwestern United States, etc. This material can be studied microscopically and its comparative morphology and variability determined by comparison of samples from different areas. (b) Ethnobotanical—information treating of the names, lore, and uses of plants known to various peoples, e.g. Indians. (c) Historical—reports of travelers and others at the time of contact. It is obvious that the information obtained from the latter category is likely to be of uneven reliability, depending upon the training, interests, and accuracy of the individual observer. Thus, the archaeological and ethnobotanical materials are apt to be the most significant and reliable sources of information.

SYSTEMATICS

Lagenaria is a monotypic genus of the Cucurbitaceae, with 11 pairs of chromosomes. A monoecious, trailing, white-flowered annual, it is quite distinct from other members of the family. The 5-petaled, white, conspicuous flowers, opening shortly after sundown, and fading in the early morning, are unusual in the Cu-

* Fellow, John Simon Guggenheim Memorial Foundation, 1946-47.

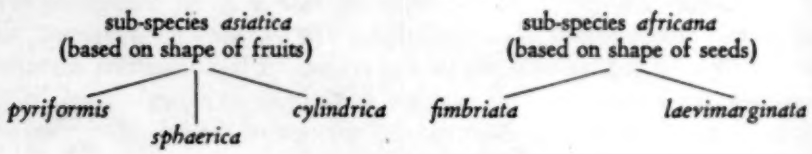
1 Safford, *Food Plants and Textiles of Ancient America.*

curbitaceae. The soft, semi-viscid, musky scented vines, with branched tendrils, and with unlobed leaves, each having a pair of glands at the base, are well-marked vegetative characters. The staminate flowers are on long peduncles which may exceed the leaves; the anthers are coherent to some extent, but are not adnate or formed into a column. The fruit is extremely variable in size and shape. Mature fruits may be from three inches up to three feet long. There are a dozen or more shapes which are commonly found, e.g. club-shaped, dumbell-shaped, bottle-shaped, dipper-shaped, etc.

Cogniaux and Harms [2] have contributed what is perhaps the best taxonomic treatment of *Lagenaria* to date. These monographers, after an extensive survey, consider *Lagenaria siceraria* to be a single species. In fact, they found no basis on which to subdivide it into botanical varieties. Cogniaux and Harms express the opinion that the species is Old World in origin. Apparently, because of its unavailibility, the archaeological record was not taken into account in arriving at this opinion.

Kobyakova [3] has made an extensive study of the systematics of *Lagenaria*, accumulating and growing in culture a large series of forms obtained from Asia and Africa. *Lagenaria* is divided into two sub-species, *asiatica* and *africana*, by this author. These entities differ from one another by a whole complex of characters, some of which are enumerated in Table 1.

The subspecies are further divided into varieties. In the case of *asiatica*, the separation is based on fruit shape, while for *africana*, seed shape is used as the basis of separation. The final result is pictured in the following diagram.



There appears to be some regularity in the distribution of the above types: in India, spherical shapes predominate; in Africa, Afghanistan, and Persia, pyriform shapes are most common; in Asia Minor snake-like and pyriform shapes prevail.

It is difficult to evaluate the significance of the above separation of *Lagenaria* into subspecies. At least it does provide some evidence that the Old World forms of *Lagenaria* may be differentiating into subspecies and varieties on the basis of

2 Cogniaux and Harms, *Das Pflanzenreich.*
3 Kobyakova, *The Bottle Gourd.*

TABLE 1

Character differences between *Lagenaria siceraria* subspecies *asiatica* and subspecies *africana* (from Kobyakova)

	asiatica	*africana*
Main runner (length)	3-10 meters	10-15 meters
Leaves		
Shape	5-lobed	reniform
Margination	laciniate	entire
Color	greyish green	dark green
Venation of lamina	weakly developed	strongly developed
Hairs	sparsely hirsute	densely hirsute
Flowers	large	small
Fruit		
Dimensions	large	medium
Color	light green to white	dark green
Shell	thick	thin
Seeds		
Taste	sweet (edible)	bitter (inedible)
Shape	approximately triangular	approximately rectangular
Color	light greyish brown	dark brown
Vegetative period	4-6 months	6-8 months

geographical isolation. Should this prove to be true, a comparable study of New World forms would be extremely interesting.

STRUCTURE OF THE EXOCARP

Lagenaria has certain characteristics which make it good archaeological material. As will be pointed out later, the fruits are of considerable importance in the economy of primitive peoples. Furthermore, if kept dry they are practically indestructible by the ordinary hazards of the environment. The result has been a relatively rich archaeological harvest. In addition, the fruits are recovered more or less intact, and can be identified by shape rather easily. If fragmented, positive identification can be obtained by microscopic examination of a thin cross-section of the "shell" (exocarp). The only archaeological plant products likely to be

confused with *Lagenaria* are species of *Cucurbita,* and the true calabash *(Crescentia Cujete L.).* Fruits of the latter species are distinctly four-ridged, and consequently are easily distinguished from *Lagenaria.* Furthermore, *C. Cujete* and *L. siceraria* are entirely different in the histological structure of the exocarp. In the calabash the "shell" is composed almost entirely of thick-walled stone cells and wood fibers, while the "shell" of the gourd consists of an epidermis, followed by a layer of small, thin-walled parenchyma cells, loosely attached to a layer of short, thick-walled, stone cells. The latter tissue gradually gives way to large, rather thick-walled, poorly organized parenchyma cells, which make up the bulk of the exocarp in cross-section. Scattered among the parenchyma, an occasional vascular bundle is found. In most, but not all of the archaeological materials of *L. siceraria,* the epidermis and the soft layer of parenchyma tissue are absent, exposing the stone cells to the exterior.

Microscopically the archaeological materials of species of *Cucurbita* can be distinguished from *Lagenaria* by their thin walls and the less dense structure of the exocarp. These differences can be confirmed by comparison of the exocarps in cross-section. In *Cucurbita,* the epidermis is invariably present; then follows several layers of comparatively thick-walled, lignified cells, which apparently provide the strength and toughness characteristic of the "shell." The thick-walled cells are followed by large, isodiametric, parenchyma cells, which compose the bulk of the shell in cross-section. Table 2 lists the principal differences in the cellular structure of *Lagenaria, Cucurbita,* and *Crescentia,* in cross-section. The descriptions and measurements of the first two are from archaeological materials, those of the latter from ethnological material.

TABLE 2*

Comparison of the histological structure of the exocarps of *Lagenaria, Cucurbita,* and *Crescentia*

	Lagenaria	*Cucurbita*	*Crescentia*
Thickness of exocarp	1-13 mm	2-3 mm	less than 1-2 mm
Epidermis	usually absent	present	absent
Stone Cells	well developed	poorly developed or absent	exocarp consists mostly of these cells
Parenchyma	poorly organized thick walls	isodiametric, thick walls	absent

* The material in Table 2 has been compiled from the unpublished observations of the author.

USES

Past civilizations have used the fruits of *Lagenaria* in a number of ways. Probably because of its poor quality, bitterness, and low caloric value, it is primarily not a food plant. To peoples unacquainted with the more advanced techniques of metallurgy, gourds had a wide field of usefulness. The "shells" were used for utensils, musical instruments, religious instruments, and for various miscellaneous purposes.[4] It is evident that some pre-Columbian civilizations used gourd shells in a manner comparable to china or crockery of the present day.

THE ARCHAEOLOGICAL RECORD

In surveying the archaeological record of *Lagenaria* in the Western Hemisphere no claims for completeness are made. Rather the aim has been to select for discussion, clear-cut and well-documented examples that are supported by collections. This sample of the archaeological record demonstrates convincingly, that *Lagenaria* had a widespread distribution in the Americas prior to Columbus.

South America

There is abundant archaeological evidence that *L. siceraria* was well established along the west coast of South America in pre-Columbian times. In the latter part of the 19th century, Wittmack identified seeds of a cucurbit found at Ancon, Peru, as *L. siceraria*.[5] In the same publication [6] a variety of gourd utensils are illustrated. These materials are undoubtedly *L. siceraria,* and the sizes and shapes indicate considerable diversification.

Yacovleff and Herrera [7] list and illustrate *Lagenaria* fruits from several pre-Columbian sites. The illustrations and measurements are evidence of a high degree of variation in the size and shape of the fruits. The largest "shell," ornamented, and apparently used as a basket, measured 220 mm in diameter, with a depth of 110 mm, and walls 9 mm in thickness. These investigators conclude with the statement that the diversity of the fruits indicates an extremely long period of cultivation of the gourd in Peru.

Ames [8] has studied a small, gourd-bottle from a pre-Columbian grave at Paracas, and finds without doubt that it is *Lagenaria siceraria.* Among a batch

4 See Dodge, *Gourd Growers of the South Seas;* Speck, *Gourds of the Southeastern Indians;* Whiting, *Ethnobotany of the Hopi.*

5 In Reiss and Steubel, *The Necropolis of Ancon in Peru,* vol. 3, plate 107, fig. 17.

6 *Idem,* plate 82, figs. 1-13.

7 Yacovleff and Herrera, *El Mundo Vegetal de los Antiguos Peruanos.*

8 Ames, *Economic Annuals and Human Culture.*

TABLE 3
Description of *Lagenaria siceraria* materials from the collections of Prof Max Uhle

Catalogue No.	*Notes*	*Location*	*Site*	*Period**
4-3646	Small gourd vessel, nearly closed at top, broken into fragments; walls 3 mm thick	Chincha	Site B 3rd Grave	Late Chincha
4-3655	Flat, plate-like structure; stem end, probably used for lid of container; 115 mm. dia., walls 8 mm thick	ditto	Site B 4th Grave	ditto
4-3656 a&b	Small pear shaped gourd; stem end broken, but left inside of gourd; 70 mm high, 60 mm dia., walls 2-3 mm thick	ditto	ditto	ditto
4-3685	Small, oblong gourd vessel, very thin, fragmented, partly missing; walls 2-3 mm thick	ditto	Site B 5th Grave	ditto
4-3723	Bowl, with burnt ornamentation; 135 mm dia., 70 mm deep, walls 4-8 mm thick (see Plate 1)	ditto	Site C 3rd Grave	ditto
4-3812a	Rather large necked gourd, evidently used for liquid container; 165 mm high, 101 mm dia., walls 13 mm thick (see Plate 1)	ditto	Site C 13th Grave	ditto
4-3812b	Small, necked gourd; mended; possibly lime container; 60 mm high, 55 mm dia., walls 3 mm thick	ditto	ditto	ditto
4-3840	Small, spherical specimen, burnt design of wild cat; apparently used for container; 45 mm. dia., 30 mm deep, walls 4 mm thick	ditto	Site D	
4-3841	Young, pear-shaped specimen, perforations on sides and bottom; 50 mm in dia., 55 mm deep, walls 3 mm thick	ditto	ditto	
4-3888b	Plain gourd bowl, containing hair; 75 mm dia., 40 mm deep, walls 4 mm thick	ditto	ditto	Inca
4-3889b	3 seeds, probably only one fully mature†	ditto	ditto	ditto

* These are the period designations carried in the Catalogue, Museum of Anthropology, University of California, and were assigned by Prof A. L. Kroeber (see references).

† See Carter, *Some Archaeologic Cucurbit Seed from Peru.*

† See Carter, *Some Archaeologic Cucurbit Seed from Peru.*

TABLE 3 (cont'd)

Catalogue No.	*Notes*	*Location*	*Site*	*Period*
4-3929d	Apparently a large container, fragmented, ornamented; walls 8 mm thick	Chincha	Site E 3rd Grave	Late Chincha
4-3949	Small, necked, ornamented specimen, 30 mm dia., 66 mm long, walls 2 mm thick	ditto	Site E 8th Grave	Inca
4-3960c	Bowl, used for holding thread; 80 mm dia., 55 mm deep; walls 3 mm thick (see Plate 1)	ditto	Site E 11th Grave	ditto
4-3965s	Bottle-shaped, young specimen, containing seeds, possibly used as rattle; 90 mm long, 40 mm dia., walls 1-2 mm thick	ditto	Site E 12th Grave	
4-4027	Collection of 4 rather small gourds, with circular blossom end of another one; measurements from smallest to largest are: 40 mm dia., 40 mm high, walls 1-2 mm thick; 60 mm dia., 30 mm high, walls 1-2 mm thick, appears to be cut in half; 100 mm dia., 35 mm deep, walls 2-5 mm thick; circular bottom—7-5 mm dia., walls 2-4 mm	ditto	Site E 14th Grave	ditto
4-4041	Sewing basket; 85 mm dia., 55 mm deep; walls 6 mm thick (see Plate 1)	ditto	Site E 15th Grave	ditto
4-4046	Medium-sized bowl, containing leaves; 80 mm high, 110 mm dia., walls 4 mm thick	ditto	Site E 18th Grave	ditto
4-4115	Small specimen used for container, ornamented, fragmented; walls 2 mm thick	ditto	Site F 5th Grave	ditto
4-4135	Small bowl used as dye container; 44 mm high, 66 mm dia., walls 3 mm thick	ditto	Site D	Late Chincha
4-4240	Small calabash bowl used for preparing red paint; 45 mm dia., 35 mm deep, walls 2 mm thick	Ica Valley Galagarza	Site B	
4-4389	Plain bowl, containing thread and cotton; 110 mm dia., 75 mm deep, walls 4 mm	Ica Valley	Site M	Ica

TABLE 3 (cont'd)

Catalogue No.	*Notes*	*Location*	*Site*	*Period*
4-4457a	Plain bowl used for sewing basket; 115 mm dia., 70 mm deep; walls 8 mm thick (see Plate 1)	Ica Valley	Site M	Ica
4-4457b	ditto (measurements almost identical; see Plate 1)	ditto	ditto	ditto
4-4511	Bowl, ornamented, 100 mm dia., 75 mm high, walls 3 mm thick	Ica Valley Ocucaje	Site D	Late Ica
4-4512	Large, probably kettle shaped gourd; fragmented; walls 4 mm thick	Ica Valley	ditto	ditto
4-4564	Small bowl, containing hard, red cement-like substance; 30 mm high, 55 mm dia., walls 3 mm thick	ditto	Site E 15th Grave	Epigonal
4-4793	Necked form, fairly large, enclosed with cord net; probably used for water bottle; 88 mm dia., 225 mm long, walls 4 mm thick (see Plate 1)	ditto	Site H of Kroeber and Strong	Middle Ica
4-4805	Pear shaped gourd, containing gravel, used as rattle, tapered toward blossom end; 80 mm dia., 120 mm long, walls 2 mm thick (see Plate 1)	ditto	Grave Chamber II	ditto
4-4996	Small bowl; 25 mm high, 42 mm dia., walls 2 mm thick	ditto	Site T of Kroeber and Strong	
4-5087	Bowl, fragmented, ornamented, used for container, very thick walls, 6 mm	ditto	Site T Burial 10	Late Inca
4-5362	Very young specimen, containing some red paint; 42 mm dia., 25 mm deep, walls 2 mm thick	ditto	Site T Grave I	Inca
4-5447a	Somewhat mashed, ornamented; used as container; thick walls, 5 mm (see Plate 1)	ditto	Site Grave M	ditto
4-5447b	Fragmented, ornamented, used for container; very thick walls, 7 mm	ditto	ditto	ditto

TABLE 3 (cont'd)

Catalogue No.	*Notes*	*Location*	*Site*	*Period*
4-5447c	Fragmented, ornamented, used for container; very thick walls, 6 mm	Ica Valley	Site Grave M	Inca
4-5642b	Probably a pear-shaped gourd; severed at about the middle; 60 mm high, 80 mm dia., walls 4 mm thick	Ancon	Site M Grave 3	Middle Chincha
4-5680	Bottle type, young specimen, containing seeds, which are mostly immature but identifiable as *Lagenaria;* 60 mm dia., 100 mm long, walls 1-2 mm thick (see Plate 2)	ditto	Site T Grave 14	
4-5686	Completely fragmented, may have been used as liquid container; walls fairly thick, 5 mm	ditto	ditto	
4-5808a	Very large specimen, used for work basket; mended with cord; ornamented; 203-254 mm dia., 60 mm deep, walls 5-6 mm thick (see Plate 2)	ditto	Site X Grave 101	
4-5727a	Fragmented, ornamented, used as container; 160 mm dia., 57 mm high, walls 4 mm thick	ditto	Site T Grave 101	
4-5875	Very large specimen used for work basket; ornamented; 225-255 mm dia., 45-50 mm deep, walls 5-6 mm thick (Plate 2)	ditto	Site X Grave 102	
4-6261b	Bowl, well preserved, 155 mm dia., 95 mm deep, walls 8 mm thick (see Plate 2)	ditto	Site P Surface	
4-6388a	Cylindrical tube, upper necked portion of fruit, with fitted plug in stem end, string attached to tube and plug; 70-80 mm long, 30 mm dia., walls 4 mm thick (see Plate 2)	Chancay	Site A Grave 1	

TABLE 3 (cont'd)

Catalogue No.	*Notes*	*Location*	*Site*	*Period*
4-6388b	Cylindrical tube, upper necked portion of the fruit with fitted plug in end proximal to remainder of fruit; plug apparently made from the remaining portions of the same fruit; 85 mm long; 20 mm dia., walls 3 mm thick (see Plate 2)	Chancay	Site A Grave 1	
4-6388c	Cylindrical tube, upper necked portion of fruit; fitted plugs at both ends, plug at one end evidently made for string attachment to both tube and plug walls; 100 mm long, 30 mm dia., walls 3-4 mm thick	ditto	ditto	
4-6388 a&c	Cylindrical tube, upper necked portion of the fruit; fitted plug at one end, the other closed; 125 mm long, 25 mm dia., walls 3-4 mm thick	ditto	ditto	
4-6389a	Bottle shaped young specimen; 95 mm long, 53 mm dia., walls 2 mm thick (see Plate 2)	ditto	ditto	
4-6389b	Bottle shaped, young specimen; 105 mm long, 60 mm dia., walls 3 mm thick (see Plate 2)	ditto	ditto	
4-6389c	Bottle shaped, very young specimen; 5 mm long, 40 mm dia., walls 3 mm thick	ditto	ditto	

of cucurbit seed recovered from Chincha, Carter [9] has identified three as belonging to *L. siceraria.*

Through the courtesy of the Curator of the Museum of Anthropology, University of California, Berkeley, California, the writer has been privileged to examine the collections of Prof Max Uhle, made in 1901. This material probably represents a fair cross-section of the variation in fruit sizes and shapes to be found in *Lagenaria* during pre-Columbian times.

These items with the relevant data are listed in Table 3. It may be added that in cases where the material was badly fragmented or could not be positively identified as *L. siceraria* by shape, the writer has sectioned the material, using the method of Foster.[10] The general histological pattern is similar to that described by Eames and St John [11] for the Hawaiian "ipu nui," except that in some cases the epidermis and the thin layer of parenchyma has not been sloughed off.

North America

The archaeological record of *Lagenaria* in North America is documented chiefly in the American Southwest and Middle West. Hough,[12] reporting a Pueblo III culture from Tularosa Cave, found abundant evidence of the use of *Lagenaria,* mainly as dippers, seed containers, ornaments, and tools. The gourd shells recovered at this site are usually small, and mostly of the necked type.

Haury, at the Canyon Creek Ruin, has uncovered several gourd types. The collection includes three of the necked type, one round, water-bottle type, and possibly one of the trough type, which was halved lengthwise and used as a scoop.[13] The diameter of the largest gourd is about five inches. Dated by the tree ring method, the construction of the houses apparently started in 1278 AD and continued uninterruptedly until the middle of the fourteenth century.

Volney H. Jones[14] has briefly analyzed some of Steen's botanical material from the Upper Tonto ruins. He reports finding three or four utensils made from the fruits of *Lagenaria siceraria.* A single seed was identified as belonging to this species. A tree ring date of 1346 AD indicates that this site was approximately contemporaneous with Haury's Canyon Creek Ruin.

Among the most significant archaeological remains of *Lagenaria* are those recovered from the rock shelters and caves of Kentucky by Funkhouser and

9 Carter, *Some Archaeologic Cucurbit Seed from Peru.*
10 Foster, *Comparative Morphology of the Foliar Sclerids.*
11 Eames and St John, *The Botanical Identity of the Hawaiian Ipu Nui.*
12 Hough, *Culture of the Ancient Pueblos of the Upper Gila Region.*
13 Haury, *The Canyon Creek Ruin,* plate 47.
14 In Castetter and Bell, *Pima and Papago Indian Agriculture.*

Webb.[15] Jones[16] has identified and commented on these materials in some detail. He has reëvaluated the significance of these materials and has kindly given permission to quote the following statement.

Archaeological remains of gourds, both shells and seeds, have been found in rock shelters in Kentucky. Webb and Funkhouser in their early papers give the impression that in some of these sites materials were stratified as follows: lowest levels, neither gourds nor pottery present; intermediate levels, gourds and primitive hoes, suggest the beginnings of agriculture; upper levels corn and pottery appear. This is an interesting and highly suggestive sequence, but it must be kept in mind that it is apparently impressionistic, as such stratigraphy is nowhere in their papers borne out by detailed notes. The materials from their earlier excavated sites were referred to by the authors as "gourds," and seems not to have had critical identification. Material from the Newt Kash Hollow site was submitted to Jones who found many gourd shells and five gourd seeds in the material identified as *Lagenaria vulgaris (L. siceraria)*. Webb and Funkhouser (*Rock Shelters in Menifee County*, p. 130) illustrate about 30 seeds, obviously of *Lagenaria*, and additional shells which may be of this species, from material not submitted to Jones. This material is from cache pits and fill of the shelter, and no stratigraphy is reported for this site, and no claims for the above sequence were made for this site. Jones (in Webb and Funkhouser, *idem*, p. 155) commented on gourds in Kentucky sites, reviewing the earlier remarks of Webb and Funkhouser and pointing out the value of the gourd to a semi-sedentary, hunting group, suggesting that it might be preferred to pottery, providing that both were available.

The Kentucky Bluff Shelters have not been satisfactorily integrated with the main streams of culture in the Eastern United States and their age and cultural relationships are not clear. It is certain, however, that they are pre-Columbian. Webb and Funkhouser (*idem*, p. 139) state, "No historic Indian material or evidence of contact with white civilization has ever been found by the authors in any Kentucky rock shelter." On the basis of floral change indicated since the occupation of the Newt Kash site, Jones (in Webb and Funkhouser, p. 165) suggested that some antiquity must be allowed for the site, and attempted to correlate the site flora, with Sears' climatic and floral periods. This process suggested a highly tentative date of about 2000 BC for the site, but Jones warns that, "the evidence is far from conclusive." Conventional archaeological opinion would date the Newt Kash site probably not earlier than 800 to 900 AD. Whatever the date, it is quite clear that the Newt Kash site is definitely pre-Columbian and earlier than the large mounds of the Hopewellian and Mississippi cultures, and it may represent some of the earliest agriculture in the Eastern United States.

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15 Funkhauser and Webb, *The So-called "Ash Caves"; idem, Rock Shelters in Wolfe and Powell Counties;* Webb and Funkhauser, *Archaeological Survey of Kentucky; idem, Rock Shelters in Menifee County.*

16 Jones, "The Vegetal Remains of Newt Kash Hollow Shelter" in Webb and Funkhauser, *Rock Shelters in Menifee County.*

Through the courtesy of Volney H. Jones, Curator of the Ethnobotanical Museum of the University of Michigan, the Newt Kash cucurbitaceous collections were made available to the writer for study. All of the material consisted of fragments, with a maximum dimension of two inches or less. A fairly large sample of the material was sectioned and examined microscopically. Of the 47 items in the collection, about one-fourth proved to be species of *Cucurbita;* the remainder were *Lagenaria.*

Summing up the evidence from the Newt Kash Shelter, we must conclude; (a) that *Lagenaria* was present in considerable abundance; (b) the site is definitely pre-Columbian, probably around 800-900 AD and may represent some of of the earliest agriculture in the Eastern United States.

Strong[17] in reëxcavating the Walker Gilmore site in Cass County, Nebraska, reports abundant material of *Lagenaria* in hearths and refuse layers. It consisted of seeds and fragmented shells. The shells have never had critical examination, but three seeds were sent to the University of Michigan Ethnobotanical Laboratory, and the Curator, Volney H. Jones, informs me that they are unquestionably *Lagenaria.* Thus the case for the presence of *Lagenaria* at this site rests upon these three seeds. However, it is quite probable that many of the shells observed by Strong were actually *Lagenaria.*

The materials of *Lagenaria* in the deep strata of the site were found in ash pits, hearths, and refuse layers, under ten to fifteen feet of stratified clay, and redeposited loess. These materials from the deep strata are classified as belonging to the Sterns Creek Culture. It is of interest to note that Strong reports gourds and squash at the lower levels of this culture, but no corn or beans.

Associated with and perhaps superimposed on the Sterns Creek Culture, are more recent materials classified as the Nebraska Culture. There is no evidence of trade materials in either culture, so that the entire site may be considered pre-contact. There is no precise method of dating this site, but by comparative dating a figure of 1000 AD would seem to be conservative for the lower stratum. The important point for the present purpose is to note that this site was definitely pre-contact, with the possibility that it existed several hundred years prior to contact.

Another North American record of considerable significance is that of Ekholm[18] who has uncovered remains of painted gourds in the deepest levels, during excavations at Guasave, Sinaloa, Mexico. There may be some question as

17 Strong, *An Introduction to Nebraska Archeology.*
18 Ekholm, *Excavations at Guasave.*

to whether this material is assignable to *Lagenaria,* and in this connection the following statement is of interest.

These remains represent a paint cloisonné decoration on containers which were apparently made of gourds or calabashes. One specimen illustrated elsewhere has on the inner surface below the rim a waviness closely resembling that on the inside of gourd bowls such as are commonly used in Mexico today. Also in most of the specimens both interior and exterior surfaces were decorated, and it is obvious that the substance of the vessels was usually no more than 4 mm thick, too thin to have been carved from wood, but approximately the thickness of a dried gourd.

A wall 4 mm in thickness would indicate a small to medium sized gourd, and at the same time eliminates the true calabash *(Crescentia Cujete)* from the picture. "Shells" of the later species average about 1 mm in thickness. In measurements of eighteen specimens of *Crescentia,* only three exceeded 1 mm in

TABLE 4

Relative chronology of archaeological sites in Peru, from which material of *Lagenaria siceraria* has been obtained*

Site	*Culture Period*	*Location*	*Date*
Paracas (Cavernas)	Chavin Periods	South Coast	400-600 AD
Paracas (Necropolis)	Early Periods	South Coast	700-800 AD
Nazca	Early Periods	South Coast	700-800 AD
Ica Valley	Middle Periods	South Coast	900-1200 AD
Ancon	Middle Periods	Central Coast	900-1200 AD
Chincha	Late Periods	South Coast	1300-1400 AD
Chancay	Late Periods	Central Coast	1300-1400 AD

* Compiled from Bennett, *Archeology of the Central Andes.*

TABLE 5

Relative chronology of the pre-Columbian appearance of *Lagenaria siceraria* in North America

Site	*Culture Period*	*Location*	*Date*
Newt Kash	possibly Adena	Kentucky	800-900 AD
Walker Gilmore	Sterns Creek variant of Woodland	Nebraska	1000 AD
Tularosa Cave	Pueblo III	Arizona	1000-1200 AD
Canyon Creek Ruin	Pueblo IV	Arizona	1278-1350 AD
Upper Tonto Ruins	Pueblo IV	Arizona	1346 AD
Guasave	(Culiacan) (Aztatlán)	Sinaloa, Mexico	1000 AD

thickness (about 2 mm maximum), while in five specimens the wall was less than 1 mm in thickness.

If we summarize the documented occurrence of *Lagenaria siceraria* in the Western Hemisphere in pre-contact times by plotting on a map (Fig. 1), a widespread distribution is indicated. The approximate dating of these sites (see Tables 4 and 5) seems to imply dispersal in New World agriculture over a wide area at a very early date.

HISTORICAL AND ETHNOBOTANICAL

While not as reliable as the archaeological record, there are some supplemental observations from other sources that may be significant as indicating a widespread occurrence of *Lagenaria* in the Western Hemisphere at the time of contact. Nuttall[19] makes this statement regarding *L. siceraria (Cucurbita vulgaris):* "cultivated by the aborigines from the earliest discovery of N. A. and partly naturalized in the vicinity of their stations." Elliott[20] in speaking of *L. siceraria* says, "The calabash is rarely found growing in the woods, and is certainly not indigenous. It appears to have been brought by the ancient inhabitants of our country from a warm climate. It grows spontaneously around the settlements, particularly on the sea-islands, and delights in a rich dry soil." The expression "ancient inhabitants," evidently refers to the aboriginal inhabitants of North America, rather than the early settlers from Europe, and could be interpreted to mean that it was established along the eastern coast of North America prior to contact.

Cook[21] lists three native Peruvian names for gourds: Ancana, Matti, and Puru. These names probably refer to specific fruit shapes of *L. siceraria,* and is a further indication, along with the archaeological record, that *Lagenaria* was present in Peru prior to contact.

THE ANTIQUITY OF LAGENARIA IN THE OLD WORLD

There seems to be no doubt that the gourd has had a long history of cultivation in the Old World. Naudin,[22] in his critical review of a number of genera in the Cucurbitaceae, notes that Pliny recognized the plant, and that it was well-known in Greco-Roman times.

Schweinfurth[23] reports the discovery of a "shell" of *Lagenaria* in an Egyp-

19 Nuttall, *The Genera of North American Plants.*
20 Elliott, *Sketch of the Botany of South Carolina and Georgia.*
21 Cook, *Peru as a Center of Domestication.*
22 Naudin, *Revue des Cucurbitaceae.*
23 Schweinfurth, *Neue Funde aus dem Gebiete der Flora.*

tian tomb, dated at the time of the 5th Dynasty (3300-3500 BC). Ames [24] gives a Sanskrit name for *Lagenaria* as *ulava,* which indicates that the gourd was cultivated in Asia in very remote times.

Burkill [25] offers the opinion that *Lagenaria* was domesticated in the Old World and is indigenous to Africa. His statement, which follows, would have been more convincing if the sources of information had been supplied.

> Its [*Lagenaria*] adoption by man as one of his cultivated plants, can have occurred only in the Old World, although some have claimed that it occurred in the New World before the discovery of America by Columbus. The ancient Egyptians had it, and Africa is probably its original home. At the present time there is much cultivation of it in Africa, both of the races grown that flesh may be eaten and of the races which furnish calabashes.

Burkill follows up with a statement of considerable interest, if true:

> if it is right to regard it as African, then it travelled eastward at an early date, and had reached China not later than the first century of our era.

The early explorers found it well established in Polynesia. Dodge [26] expresses the opinion that it was one of the most important economic plants in this group of islands. According to this author it was of greatest value to the native culture in marginal Polynesia, especially the Hawaiian Islands, Easter Island, and New Zealand. It was used less in Central Polynesia, and was only minor importance in Western Polynesia.

DISCUSSION AND CONCLUSIONS

It is difficult to make an objective comparison of the genes present in *Lagenaria* from two geographical areas on the basis of the morphology of fruits and seeds. However, there are several facts that may have some bearing on this matter:

(a) There is no archaeological evidence to indicate the presence of the large Hawaiian "ipu nui" [27] in the New World.[28] Likewise there are no archaeological remains of the elongated snake-like types, common in the Old World. On the other hand, I find no evidence in the Old World of the large "kettle types" which

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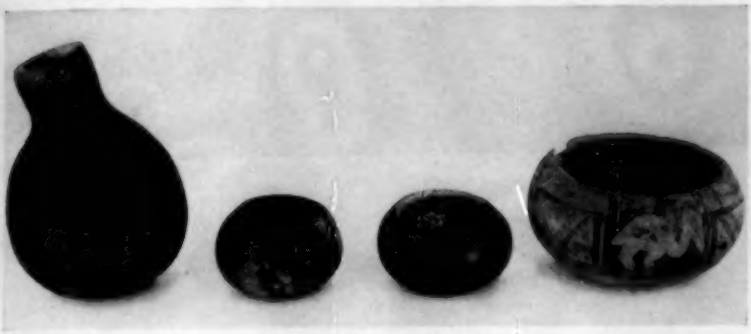
24 Ames, *Economic Annuals and Human Cultures.*

25 Burkill, *A Dictionary of the Economic Products of the Malay Peninsula.*

26 Dodge, *Gourd Growers of the South Seas.*

27 Eames and St John, *The Botanical Identity of the Hawaiian Ipu Nui.*

28 In the *Jesuit Relations* mention is made of gourd storage vessels as large as "half barrels," in the Mississippi valley in about the 18th century. This would indicate rather large gourds, but it may be an exaggeration, as there is no further description of them.



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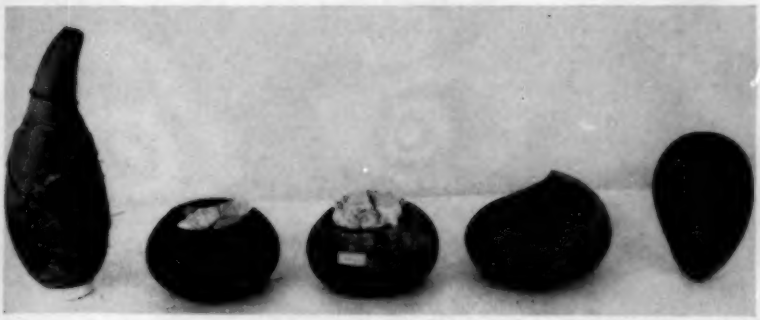
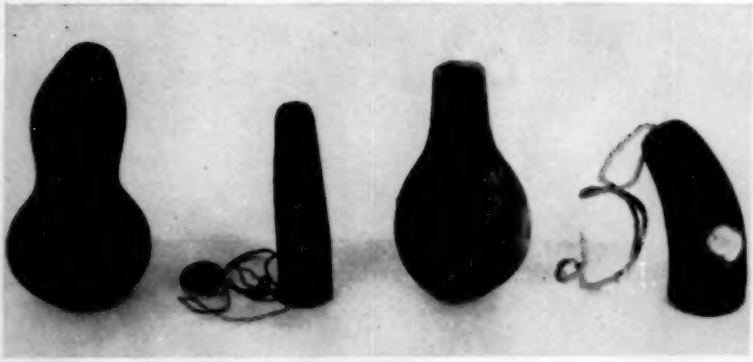


4-4793 4-4457 a 4-4457 a 4-5447 a 4-4805

PERUVIAN ARCHAEOLOGICAL GOURDS
From the Uhle Collection: Chincha above, Ica Valley below.

4-5875 4-6261 b 4-5808 4-5680



4-6389 b 4-6388 b 4-6389 a 4-6388 a

PERUVIAN ARCHAEOLOGICAL GOURDS
From the Uhle Collection: Ancon above, Chancay below.

were apparently quite common in the pre-Columbian civilization along the coast of Peru. Otherwise, judging by shape and sizes, the materials from both hemispheres are rather closely comparable.

(b) A comparison of the archaeological seeds with those figured by Kobyakova [29] shows that they fall well within the range characteristic of this species, but they are certainly not as extreme as the blocky, almost square seeds of the African types. However, there is a close resemblance between the archaeological seed and the Asiatic types.[30]

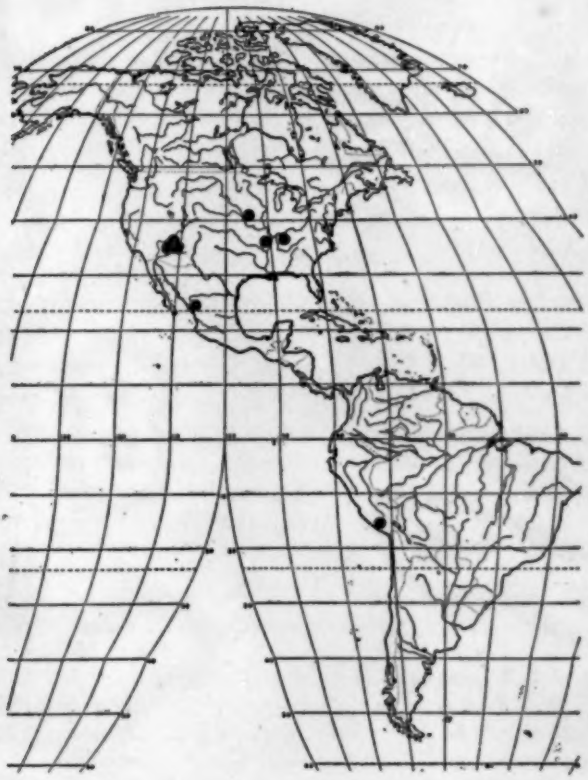


FIG. 1. Distribution of the sites in North and South America from which archaeological material of *Lagenaria siceraria* has been obtained.

29 Kobyakova, *The Bottle Gourd*, fig. 13, p. 486.
30 *Idem*, fig. 15, p. 488.

The evidence, as reviewed above, seems to indicate that *Lagenaria siceraria* was widely distributed and cultivated in both New and Old Worlds prior to 1492. The archaeological remains from the Kentucky rock shelters and others shows that it may have been in North America as much as several hundred years before the arrival of Columbus, and in South America for at least 1000 years before the conquest.

On the basis of the facts at hand it is extremely difficult to account for the bi-hemispheric distribution of *Lagenaria*. There are not sufficient differences in the variability of the species between the two hemispheres to act as reliable signpost in making a decision as to its endemism.

What evidence we have seems to indicate that *Lagenaria* is slightly more variable in the Old World than in the New, but it is certainly not decisive. In my judgment the widespread, abundant, and well-documented distribution of *Lagenaria* in the Americas prior to contact, is difficult to disregard, and places the burden of proof on those who would derive this species from an Old World origin.

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BIBLIOGRAPHY

AMES, O. *Economic Annuals and Human Cultures* (Botanical Museum, Harvard University, 1939).

BAILEY, L. H. *The Garden of Gourds* (New York, 1937).

BENNETT, W. C. *The Archeology of the Central Andes* (in *Handbook of South American Indians*, J. H. Stewart, ed., Bulletin, Bureau of American Ethnology, no. 143, vol. 2, pp. 61-147, 1946).

BURKILL, I. H. *A Dictionary of the Economic Products of the Malay Peninsula* (London, 1935), vol. 2, pp. 1296-1298.

CARTER, G. F. *Some Archaeologic Cucurbit Seed from Peru* (Acta Americana, vol. 3, pp. 163-172, 1945).

CASTETTER, E. F., and W. H. BELL. *Pima and Papago Indian Agriculture* (Inter-Americana Studies, no. 1, Albuquerque, 1942).

COGNIAUX, A., and H. HARMS. *Das Pflanzenreich*:IV (A. Engler) Cucurbitacaeae—Cucurbiteae—Cucumerinae. 275 (II), pp. 200-209.

COOK, O. F. *Peru as a Center of Domestication; Tracing the Origin of Civilization Through the Domesticated Plants* (Journal of Heredity, vol. 16, pp. 33-46, 95-110, 1925).

DODGE, E. S. *Gourd Growers of the South Seas* (Ethnographical Series, Gourd Society of America, no. 2, Boston, 1943).

EAMES, A. J. and H. ST JOHN. *The Botanical Identity of the Hawaiian Ipu Nui or Large Gourd* (American Journal of Botany, vol. 30, pp. 255-259, 1943).

EKHOLM, G. F. *Excavations at Guasave, Sinaloa* (Anthropological Papers, American Museum of Natural History, vol. 38, pp. 23-139, 1942).

ELLIOTT, S. *Sketch of the Botany of South Carolina and Georgia* (Charleston, South Carolina, 1824), vol. 2, p. 663.

FOSTER, A. S. *Comparative Morphology of the Foliar Sclerids in the Genus* Mouriria *Aubl.* (Journal, Arnold Arboretum, vol. 27, pp. 253-271, 1946).

FUNKHAUSER, W. D., and W. S. WEBB. *The So-called "Ash Caves" in Lee County, Kentucky* (Publications, Department of Anthropology and Archaeology, University of Kentucky, vol. 1, pp. 33-112, 1929).

Rock Shelters in Wolfe and Powell Counties, Kentucky (Publications, Department of Anthropology and Archaeology, University of Kentucky, vol. 1, pp. 239-306, 1930).

HARRINGTON, M. R. *The Ozark Bluff-dwellers* (American Anthropologist, vol. 26, pp. 1-21, 1924).

HAURY, E. W. *The Canyon Creek Ruin and the Cliff Dwellings of the Sierra Ancha* (Medallion Papers, no. 14, Globe, Arizona, 1934).

HOUGH, W. *Culture of the Ancient Pueblos of the Upper Gila Region, New Mexico and Arizona* (Bulletin, United States National Museum, no. 87, 1914).

KOBYAKOVA, J. A. *The Bottle Gourd* (Bulletin of Applied Botanical Genetics and Plant Breeding, vol. 23, pp. 475-520, 1929-30).

KROEBER, A. L. *The Uhle Pottery Collections from Chancay* (University of California Publications in American Archaeology and Ethnology, vol. 21, pp. 265-304, 1926).

KROEBER, A. L., and W. D. STRONG. *The Uhle Collections from Chincha* (University of California Publications in American Archaeology and Ethnology, vol. 21, pp. 1-94, 1924).

The Uhle Pottery Collections from Ica (University of California Publications in American Archaeology and Ethnology, vol. 21, pp. 95-133, 1924).

NAUDIN, C. *Revue des Cucurbitaceae cultivées au Muséum en 1859* (Annales des Sciences Naturelle, ser. 4, vol. 12, pp. 79-164, 1859).

NUTTALL, T. *The Genera of North American Plants* (Philadelphia, 1818), vol. 2, p. 228.

REISS, W., and A. STEUBEL. *The Necropolis of Ancon in Peru* (3 vols., Berlin, 1880-87). [Vol. 3, plates 82 and 107 with text by L. Wittmack.]

SAFFORD, W. E. *Food Plants and Textiles of Ancient America* (Proceedings, Second Pan-American Scientific Congress, 1915-16, Washington, D. C., 1917).

SCHWEINFURTH, G. *Neue Funde aus dem Gebiete der Flora des alten Ägyptens* (Botanischer Jahrbücher [Engler], vol. 5, pp. 189-201, 1884).

SPECK, F. G. *Gourds of the Southeastern Indians* (Ethnographical Series, Gourd Society of America, no. 1, Boston, 1941).

STANDLEY, P. C. *Flora of Yucatan* (Botanical Series, Field Museum of Natural History, vol. 3, pp. 157-192, 1930).

STEEN, C. R. *The Upper Tonto Ruins* (The Kiva, vol. 6, no. 5, Tucson, 1941).

STRONG, W. D. *An Introduction to Nebraska Archeology* (Smithsonian Miscellaneous Collections, vol. 93, no. 10, 1935).

WEBB, W. S., and W. D. FUNKHAUSER. *Archaeological Survey of Kentucky* (Publications, Department of Anthropology and Archaeology, University of Kentucky, vol. 2, pp. 1-463, 1932).

Rock Shelters in Menifee County, Kentucky (Publications in Archaeology and Anthropology, University of Kentucky, vol. 4, pp. 105-467, 1936).

WHITING, A. F. *Ethnobotany of the Hopi* (Bulletin, Museum of Northern Arizona, no. 15, 1939).

YACOVLEFF, E., and F. L. HERRERA. *El Mundo Vegetal de los Antiguos Peruanos* (Revista del Museo Nacional, vol. 3, pp. 243-322, Lima, 1934; vol. 4, pp. 31-102, 1935).

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SOME FACTS ABOUT BOAS

ROBERT H. LOWIE

IN A RECENT ARTICLE [1] Professor White presents the following indictment against Boas: For the longest time Boas had considered culture "a jumble of 'disparate elements'," but "during the later years of his life" he "learned to say that 'culture is integrated'." This conception he filched from Malinowski and Radcliffe-Brown; and in order "to meet the competition of their rival schools" he fraudulently imposed on the idea a "Boasian trade name," viz. cultural dynamics, thus making it appear his "distinctive contribution."

I venture to present the following relevant facts. In 1887 Boas thus attacked Otis T. Mason's policy of synoptic museum exhibits: "By regarding a single implement outside of its surroundings, outside of other inventions of the people to whom it belongs, and outside of other phenomena affecting that people and its productions, we cannot understand its meaning. . . . The art and characteristic style of a people can be understood only by studying its productions as a whole." [2]

In 1896 he explained that isolated phenomena were not the ultimate objects of research. "The object of our investigation is to find the *processes* by which certain stages of culture have developed." [3] This is, of course, cultural dynamics.

These were the principles Boas inculcated during my years as a graduate student (1904-1907).

In 1916 Haeberlin wrote a doctoral dissertation under Boas, in which he rejected the view that culture could be understood as "a summation of diffused elements." In Boas's obituary article on this favorite student of his, he said: "With remarkable clearness of vision . . . he grasped the psychological basis of culture as a unit." [4]

In 1916 Malinowski and Radcliffe-Brown were minor figures among anthropologists; in 1896 no one had heard of them; in 1887 they were, respectively, three and six years old, hence must have been very precocious to produce ideas Boas thought it necessary to pirate.

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1 Leslie A. White, *Evolutionary Stages, Progress, and the Evaluation of Cultures* (Southwestern Journal of Anthropology, vol. 3, pp. 165-192, 1947), p. 185.

2 F. Boas, *The Occurrence of Similar Inventions in Areas Widely Apart* (Science, vol. 9, p. 485 f., 1887).

3 *The Limitations of the Comparative Method of Anthropology* (reprinted in *Race, Language and Culture*, pp. 270-280, New York, 1940), p. 276.

4 F. Boas, *In Memoriam: Herman Karl Haeberlin* (American Anthropologist, vol. 21, pp. 71-74, 1919).

Professor White's characterizations of Boas, here and elsewhere, are no more useful to a student of the history of anthropology than Swift's *Gulliver's Travels* is a suitable text on the living races of man. White has latterly preached the primacy of the creative imagination—an acceptable position—and of "the free inventions of the human intellect." I accept his allegations against Boas as free inventions unsullied by the coöperation of either the intellect or the creative imagination.

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INITIAL AND FINAL ELEMENTS IN TÜBATULABAL MYTHS

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ANY TÜBATULABAL TALE TEXT consists of an initial element (or opening utterance), from six to several score medial elements, and a final element (closing utterance).

This paper is limited to examination, from a structural viewpoint, of initial and final tale text elements, as these occur in 14 published Tübatulabal tale texts recorded by C. F. Voegelin.[1]

Tübatulabal tales are like other American Indian tales in that initial and final elements are fairly formalized utterances. The presence of formal opening and closing elements in American Indian myths has been frequently noted by anthropological folklorists. But few precise statements concerning the contents of these elements have been attempted.

1. An initial element of a Tübatulabal tale text consists of from 2-19 smaller units (words). These smaller units which go to make up initial elements can be grouped in three classes: verb units (1-19), noun units (20-59), particle units (60-99).

1.1. Verb units are: 1. *living;* 2. *going down;* 3. *lived;* 4. *passed by;* 5. *coming;* 6. *raining;* 7. *fishing it is said.*

1.1.1. Verb units occur initially, medially, and finally in opening elements. One verb unit *(raining)* occurs initially only in an opening element; others medially only *(going down, fishing it is said);* others medially and finally *(lived);* others finally only *(passed by, coming);* others initially, medially, and finally *(living).*

1.2. Noun units are: 20. *Wolf;* 21. *Coyote;* 22. *water;* 23. *its edge;* 24. *people;* 25. *Bat;* 26. *of Bat;* 27. *older brother;* 28. *Horsefly;* 29. *his wife;* 30. *his* or *her mother-in-law;* 31. *little girl;* 32. *of the woman;* 33. *Tugayal;*[2] 34. *his younger brother;* 35. *Old Timers;* 36. *man;* 37. *her child;* 38. *Fox;* 39. *Ama;*[3] 40. *of the water;* 41. *his offspring;* 42. *Lapapil;*[4] 43. *Eagle;* 44. *Migitih;*[5] 45. *old woman;* 46. *grandmother;* 47. *of Migitih;* 48. *kind (variety);* 49. *brothers it is said.*

1.2.1. Nouns occur initially, medially, and finally in opening elements. Cer-

1 *Tübatulabal Texts* (University of California Publications in American Archaeology and Ethnology, vol. 34, no. 3, pp. 191-246, 1945), pp. 192-213.

2 A bird, species unidentified.

3 Proper name of a mythical giant.

4 A bird, perhaps a falcon, but species unidentified.

5 Proper name, probably borrowed from Yokuts, for Blood-Clot-Boy.

tain nouns occur initially only *(Wolf, Bat, Old Timers)*. Many occur medially only *(water, people, of Bat, older brother, Horsefly, his wife, little girl, Tugayal, his younger brother, man, his wife, her child, Ama, of the water, its edge, his offspring, Lapapil, Eagle, Migitih, of Migitih, old woman, grandmother)*. Some nouns occur finally only *(brothers it is said, of the woman, Fox, kind)*; a few, both medially and finally *(Coyote, people, his* or *her mother-in-law)*.

1.2.2. Clusters of up to three nouns may occur, either medially *(little girl + her child; Coyote + of the water + its edge; old woman + grandmother + of Migitih; of the water + its edge; of Bat + the older brother + Horsefly)* or finally *(Coyote + brothers it is said; little girl + of the woman)*.

1.3. Particle units are: 60. *and also;* 61. *toward;* 62. *and;* 63. *many;* 64. *then;* 65. *one;* 66. *already;* 67. *all the time;* 68. *every;* 69. *both.*

1.3.1. Particle units occur initially, medially, and finally. Particle units *then, already* occur initially only; *and also, toward, and, every, both* occur medially only; *all the time* occurs finally only; *many, one* occur both initially and medially.

1.3.2. Medial particle clusters of two particles occur; examples are *and also + many; and + one.*

2. All initial elements are in direct narrative.

3. The first unit of an opening or initial element, whether verb, noun or particle, always has as its final suffix the quotative *it is said.*

4. Five raconteurs, telling a total of fourteen myths, began their narratives with nine different initial units. Four of these nine are particle units, two are verb units, three are noun units.

Of the four particle units, *then it is said* was used four times by three different raconteurs, and *many it is said* was used twice; the others, *one it is said* and *already it is said,* were used once each.

Two verb units are used initially; *living it is said,* twice, *it is raining it is said,* once.

Three noun units, *Wolf it is said, Bat it is said, Old Timers it is said,* are used once each as initial units.

Medially, the verb unit *living* is used five times; *going down* once; *lived,* once. Noun units most frequently used medially are *Coyote* (five times); *his wife* (three times); *her* or *his mother-in-law, little girl, people, Tugayal* (each twice). All other medial noun units are used once each. The particle units most frequently used medially are *and also* (twelve times), *and* (seven times), *many* (three times). All other medial particles are used once only.

In final position the verb unit *living* is used twice; other final verb units once only. The noun unit *Coyote* is used three times finally; all other nouns in final

position are used once only. One particle unit, *all the time,* is used once, finally.

5. Final elements of Tübatulabal tale texts consist of from 4-8 smaller units (words). These smaller units can be grouped into three classes: verb units (100-129), noun units (130-169), particle units (170-199).

6.1. Verb units are: 100. *got turned into;* 101. *came;* 102. *travels about all over;* 103. *made a baby;* 104. *came back to life;* 105. *runs away;* 106. *went;* 107. *went it is said;* 108. *came;* 109. *shall;* 110. *live;* 111. *will eat;* 112. *died;* 113. *made appear;* 114. *lived;* 115. *it is ended;* 116. *it stood;* 117. *saw him.*

6.1.1. Verb units occur medially and finally. The majority (100-114) occur medially only; *it is ended* occurs medially and finally; *it stood* and *saw him* occur finally only.

6.1.2. One cluster of two verbs *(he went + he went it is said)* occurs, medially.

6.2. Noun units are: 130. *Little Bat;* 131. *Mud Diver;* 132. *rock;* 133. *Coyote;* 134. *day;* 135. *for little girl;* 136. *her child;* 137. *valley;* 138. *beetles;* 139. *grasshoppers;* 140. *earth;* 141. *Migitih.*

6.2.1. Noun units occur initially and medially. Two *(Little Bat* and *Mud Diver)* occur initially; the remainder (132-141) medially.

6.2.2. Clusters of two nouns may occur initially *(Mud Diver + earth),* and medially *(day + for little girl).*

6.3 Particle units are: 170. *then it is said;* 171. *there it is said from they;* 172. *again it is said;* 173. *there from I;* 174. *Indeed—;* 175. *Never it is said they;* 176. *there it is said;* 177. *there it is said they;* 178. *"Good" says;* 179. *there from they;* 180. *there;* 181. *next;* 182. *alone;* 183. *pretty soon;* 184. *and also;* 185. *from there;* 186. *again;* 187. *right here;* 188. *already.*

6.3.1. Particle units occur initially, medially, and finally. Particle units 170-178 occur initially only; 179-187 medially only; *already* finally, only.

6.3.2. Particle clusters occur initially *(then it is said + there from they; then it is said + there; there from I + alone; then it is said + from there; never it is said they + again).*

7. Many final elements are in direct narrative. Examples of direct narrative final elements are: *Then it is said / there from they / rock / got turned into / there / it is ended. There from it is said they / came / there it is ended. Then it is said / Coyote / travels about all over / there it is ended.* A few final elements begin with utterance quotations. Examples are: *From there I / alone / came / pretty soon / it stood. Indeed / I shall / valley / live / I will eat / beetles / and also / grasshoppers / there / it is ended.* One initial element begins with a particle quotation: *Good says / Migitih / it is ended / already.*

8. The initial unit of a final element in direct narrative always has as its final suffix the quotative *it is said*. The initial units of utterance and particle quotations lack this quotative.

9. Five raconteurs, telling a total of fourteen myths, used eleven different initial units in the final elements of their narratives. Nine of these eleven initial units are particle units; two are noun units.

Of the nine particle units, *then it is said* is used initially four times; all other particle units, and the two initial noun units, are used once each.

Medially, the particle unit *there,* is used twelve times; the eight other medial particle units, once only. Ten noun units are used medially; one, *Coyote,* is used three times, the remainder once each. Sixteen verb units are used medially, fifteen once each and one, *died,* twice.

In final position one particle unit, *already,* is used once. The verb unit *it is ended* occurs eleven times as the final unit of final elements; *it stood* and *saw him* are used once each in final position.

10. Analysis shows that Tübatulabal opening and closing elements are fairly variable; no specific statement that Tübatulabal myths begin or end "thus and so" would cover all cases.

However, Tübatulabal narrators are limited to a rather small stock of initial, medial, and final units for both their opening and closing elements. Noun and particle units are chiefly used as initial units in both opening and closing elements; noun, verb and particle units all serve as medial units; noun and verb units are used chiefly as final units of opening elements, the verb unit *it is ended* being used chiefly, as the final unit of closing elements. There is a tendency on the part of narrators to use particle units as initial units for both opening and closing elements, especially the particle unit *then it is said,* but this is not strongly marked.

The total number of units used in initial and final elements is also variable. For opening elements it is never less than two, never more than a score or so; for closing elements, it is never less than three, never more than a dozen or so.

Clusters of noun units up to three are used medially and finally, in opening elements; clusters of two noun units are used initially only, in closing elements. Clusters of two particle units are used medially only, in opening elements; initially only, in closing elements.

Opening elements are always in direct narrative; closing elements are often in direct narrative, but may also begin with an utterance or a particle quotation.

All initial units of elements in direct narrative have as a final suffix the quotative *it is said.*

On the basis of frequency of use of word units in the fourteen initial and

final elements examined we offer a "typical" Tübatulabal tale-text opening and closing, as follows:

(Initial element) *Then it is said Coyote is living and also his wife and his mother-in-law and also many people.*

(Final element) *Then it is said Coyote died; there it is ended.*

No Tübatulabal tale text recorded actually opens or ends with these exact words. However, since the same units are drawn upon, and used in the same position that Tübatulabal raconteurs use them in, they are probably stylistically valid. The following opening and final elements are literal translations from Tübatulabal texts:

(Initial elements) *Wolf it is said is living and also Coyote brothers it is said.*[6]

Then it is said Tugayal is living and also his younger brother and also Coyote and also many people.[7]

Then it is said Coyote water its edge is coming.[8]

Living it is said Migitih and one old woman grandmother of Migitih both are living.[9]

(Final elements) *Then it is said there from they rock got turned into there it is ended.*[10]

Then it is said Coyote travels about all over; there it is ended.[11]

From there I alone came; it stood ended.[12]

There it is said they lived right there; there it is ended.[13]

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6 Voegelin, *Tübatulabal Texts*, No. 1, pp. 192-193.
7 *Idem*, No. 5, pp. 200-201.
8 *Idem*, No. 11, pp. 208-209.
9 *Idem*, No. 14, pp. 210-211.
10 *Idem*, No. 1, pp. 194-195.
11 *Idem*, No. 3, pp. 195-199.
12 *Idem*, No. 6, pp. 204-205.
13 *Idem*, No. 13, pp. 210-211.

MOTIVATIONS IN NOOTKA WARFARE

MORRIS SWADESH

THE SAPIR COLLECTION of Nootka texts includes nine war narratives, varying in length from 2 to 56 typescript pages and totaling over 160.[1] One text was told by a participant in the events; four, including the most important (The Long War in Barkley Sound), happened in the preceding two generations; four date back to still earlier times. Details are given in proportion to the recency of the events, but are in general rather full. Kwishanishim, one of the narrators, explains, "I know all these things because my old people told me of them by way of instruction as to how to avoid being quickly killed or captured if times of war should come again." Another reason for preserving the traditions of war history is that they carry the support for a tribe's claims to hunting, fishing, and other hereditary rights.

The material touches many aspects of the war pattern and its relation to peaceful living: causes of strife, strategy and tactics, weapons, magical practices, means of reëstablishing peace. Moreover, the entire social structure of band and tribe, kinship and caste, as well as economy and social philosophy, are illuminated against the war background. In the present paper, I attempt to treat only a part of the whole subject, the reasons for warfare. This theme is intended as exploratory, to get some measure of the value of the texts for ethnographic purposes.

The Nootka live along the west coast of Vancouver Island and around Cape Flattery in the state of Washington. Their culture was much like that of their neighbors, the Kwakiutl, so well known in ethnological literature. While on a pre-agricultural level, theirs was a well-developed economy of relatively stable abundance based on fishing, whaling, hunting, and gathering. Class divisions of a feudal type existed as between chiefs, commoners, and slaves, with gradations of rank within the upper strata. Ownership of land and fishing areas was vested in the chieftain class, and the commoners turned over a fixed portion of their catch or collections of cedar bark, berries, or roots, as tribute to their respective chiefs. Inheritance was bilateral, with prestige centered upon hereditary rights and upon the amassing and distribution in potlatches of consumable wealth, consisting of food and products.

1 The editing and translation of these texts, as well as the present study, constitute part of the work carried out under a Post-Service Fellowship, 1946-47, from the John Simon Guggenheim Memorial Foundation. The paper was presented (under a slightly different title) before the American Ethnological Society on March 11, 1947.

Our material deals mainly with the several tribes living around Barkley Sound: Ucluelets, Tukwaa (or Toquart), Uchucklesits, Tsishaa (or Sechart), Huupachas, Huu'ii'a.[2] In former times there were still other tribes that later were exterminated or merged with other groups. Mention is also made in the texts of the Aahuus (Ahousat) and Clayoquot tribes, living on the coast of Vancouver Island northwest of Barkley Sound, the Nitinat to the southeast, and the Neah Bay Indians of Cape Flattery. All of these are of the Nootka group, which is recognized as a linguistic and cultural unit both by ethnologists and by the Indians themselves, though only the former use the term "Nootka" in this broad sense. The "foreigners" with whom the Barkley Sound tribes had most contact were Salish tribes.

A volume has already been published: Sapir and Swadesh, *Nootka Texts*,[3] which includes a myth, "A fight about hunting grounds between the chiefs of the Lice and the Wolves," which gives a parody on the war customs of real life. But the nine war texts referred to in the present paper are as yet unpublished.

It is possible to arrange our texts in an approximate time order on the basis of internal evidence: necessary sequence of specific events, mention of the father or grandfather of known persons, the use of firearms. Approximate dates can be suggested in some cases. Four of the texts have to do with the epoch before firearms were introduced to Vancouver Island, approximately 1785.[4] The remaining five are spread through the nineteenth century, with the last about 1880, since the teller mentions his oldest son as being a small boy at the time. The material was dictated and set down in writing between 1910 and 1916.

The principal narrator of war texts was Kwishanishim, a Ucluelet Indian whose mother was a Tukwaa. The other was Tom Saayaachapis, a Tsishaa chief related on his mother's side to the Nitinat. It was Tom who supplied the bulk of our non-war texts, with great emphasis on potlatching. Though Kwishanishim may have been of lesser status than Tom, both were of the chieftain class. It is to be expected that the narratives should reflect to some extent the prejudices of the tribe and caste of the authors, but they are far from completely one-sided.

2 Native names are given either in traditional English spellings, where such spellings have sufficient currency, or are represented in a form showing the nearest equivalent sounds. In this latter system, only intervocalic glottal stop is considered in addition to the common English phonemes; it is shown by an apostrophe. Of vowels, *ii, uu, aa* may be read with the sounds of *tea, too, father*, respectively; *i, u, a* may be read with the sounds of *pit, put, putt; e* as in *bed, aw* as in *law*.

3 Edward Sapir and Morris Swadesh: *Nootka Texts: Tales and Ethnological Narratives* (Philadelphia: Linguistic Society of America, 1939).

4 Joseph Mariano Moziño Suárez de Figueroa, *Noticias de Nutka* (Mexico 1913), p. 57-58, tells that an American, Kendrik, first sold guns to the Vancouver Island Indians.

Kwishanishim in particular gives the impression of frankness and impartiality in his account. At a few points, the material of Kwishanishim and Tom touch on the same facts, but for the most part we have but one version of each event.

THE NARRATIVES

We now give brief summaries of the war texts. The number of pages refers to typescript pages. Also, in the later discussion, page references are given according to the typescript, which can serve to give an approximate idea of the location of the passage even in the eventual published form.

Text 1. Uchucklesits Exterminate Kiihin, 6 pp., told by Tom; happened in olden times (text classified with family legends by Sapir). The Kiihin, a tribe of 600 men, are neighbors to the seaward side of the Uchucklesit, which is composed of 800 men. A Uchucklesit chief and a Kiihin princess elope and marry. When a boy is born, the Uchucklesits get the drift-whale rights of the Kiihin. This makes for a shortage of food at Kiihin. Some Kiihin commoners plot to kill their princess and her two sons, so as to regain their old food supply. They waylay the three, but have not the heart to kill them. The princess demands of her husband's tribe that they take revenge for the affront to their young chiefs, her sons. The princess plans and guides the first raid. In subsequent raids, the entire Kiihin tribe is killed off with the exception of the immediate relatives of the princess. The Uchucklesits take over the land and water rights of the Kiihin on both sides of the channel.

Added notes: In a similar manner, the Hikuuth (Ecoole) and Hachaa tribes, banding together, took the land of the Tsuuma'as (Somass). The Hachaa people were eventually killed off by the Clayoquots (corroborates Text 5).

Text 2. War among Aahuus Bands, 7 pp., told by Tom; evidently happened before the time of guns. The Kaanakim family massacre the Midbeach-pole family in order to gain top rank among the Aahuus clans. Only the small son of Midbeach-pole is saved and taken to live with his mother's tribe. Kaanakim treats his subjects despotically, for example taking a fisherman's whole catch instead of just the normal tribute; his wife treats the women in similar fashion. A mutiny is proposed by commoners and is supported by the lesser chiefs. The Kaanakim brothers and Kaanakim's son are killed, and a special death is reserved for Kaanakim's wife. The tribe now invites the son of Midbeach-pole to return as head chief. He does so and becomes a model chief.

Text 3. Tsishaa Defeat Aahuus, 5 pp., told by Tom; happened before the time of guns. A large canoe party (50 large canoes, 10 men in each) from Aahuus, passing by Barkley Sound, kill and take the head of a Tsishaa man. On their return trip, they are ambushed and all but a few killed by the Tsishaa. The Tsishaa people celebrate this victory in a song.

Text 4. Ucluelets Seize Namint, 12 pp., told by Kwishanishim; predates Text 5 (as shown by references to the Effingham Inlet tribe). The people of Ucluelet Arm decide they need a river, so as to be able to trap salmon in season. A party is sent out to visit and eat with the neighboring tribes to determine who has the best salmon.

They decide on Namint. After two raids, the Namint people give the Ucluelet a woman as a ransom to purchase peace, but both tribes continue to plan raids. The Ucluelets strike first, killing all the chiefs and taking many slaves. Namint territory and ceremonial rights are apportioned to those who killed the original holders. One Ucluelet chief gives away his territory to another, who later returns it to the former's grandchildren.

Text 5. Ucluelets Seize Effingham Inlet, 10 pp., told by Kwishanishim; happened after the northern Nootka had obtained guns (about 1785) and before the Barkley Sound tribes knew them. The Tukwaa and A'uts (Effingham Inlet) tribes have a jumping contest to determine the possession of a small cove at the boundary of their territories. The Tukwaa win. The A'uts, together with the Hachaa, decide to kill off the Tukwaa and take all their land. In one of their raids, they attack some Ucluelets by mistake. They also kill a Clayoquot. These two tribes now band with the Tukwaa survivors, the Clayoquot using guns, which they have obtained from the Nootka Sound tribes. The Clayoquot exterminate the Hachaa. The Ucluelets decimate the A'uts. One Ucluelet band obtains a small river by killing the owner. Another captures the son of the A'uts chief. Maawitsin's older brother buys the captive boy for various valuable trinkets. The A'uts chief then ransoms his son by giving up all his land rights. People say that the Maawitsin family did not acquire this land properly because they had not actually captured the A'uts heir to the title. Other Ucluelet bands ask for a share of the spoils because they helped in the fighting, but Maawitsin intimidates them.

Text 6. Ucluelets Fight Uchucklesits, 6 pp., told by Kwishanishim; happened in the time of Kwishanishim's grandfather (about 1820). The Uchucklesits invite a Ucluelet whaler to come and live with them, but kill him in order to get the secret of his tattooing. The Ucluelets raid the Uchucklesits in revenge. After that both tribes let the matter rest. But Two-hundred-up, the nephew of the whaler, has lost whaling secrets by the death of his uncle; he is brought up to be vicious and brave. When he grows up, he kills many Uchucklesits secretly.

Two-hundred-up suspects an uncle of his of poisoning his children, so he kills him. No revenge is taken.

The Ucluelets have the habit of bullying other tribes—that is the reason they once were at war with all the Barkley Sound tribes (see Text 7). When some Neah Bay Indians bring a whale ashore on their territory, the Ucluelets, at the instigation of Two-hundred-up, seize it for themselves. The Neah Bay tribe then raids the Ucluelets and make sure that Two-hundred-up is killed; after that they are satisfied.

The Ucluelet chief, Maawitsin (see Text 5), kills a man as a disease-thrower (practitioner of black magic). Maawitsin, and the others who helped him, die awful deaths from sores.

Text 7. The Long War in Barkley Sound, 57 pp., told by Kwishanishim; happened in the time of the teller's father, lasting several years (about 1850-60). A Ucluelet, whose newly bought slave escapes, demands a return of part of what he paid for him. When the former Tukwaa owner refuses, the Ucluelet tells his tribe that he was roughly treated. They raid the Tukwaa, doing damage to canoes and houses and mauling some men, but do not kill anyone. They consider the incident closed.

But the Tukwaa give presents of women to all the Barkley Sound tribes and call on them to make joint war against the Ucluelets. A combined raid is carried out, intended to annihilate the enemy, but some of the tribes spare the Ucluelets because of kinship. The remnants of the tribe reassemble and settle at a strong defensive site. From there they carry out raids, but are also raided and dispersed. Some go to live with Clayoquot and Aahuus relatives, others join the Tukwaa, their erstwhile enemies.

One of the Ucluelet chiefs, Day-at-midbeach, plots with his Huu'ii'a relatives to kill all the other Ucluelet chiefs, so that he may become the head of the tribe. He tries several tricks but is eventually killed by his Ucluelet fellow chiefs.

The Ucluelet chief, Pokes-past-head, tries to obtain slaves in order to buy guns. Meantime, the Huu'ii'a plot with the Tukwaa to kill the Ucluelets living with the latter. The Ucluelets hear about it and, with the aid of the Clayoquots, attack the Tukwaa. They take heads and slaves. They trade the slaves to the Neah Bay tribe for guns.

The Tukwaa survivors go to live with relatives in various tribes. They give presents of women, but when the other tribes start selling their children into slavery, the Tukwaa again get together with the Ucluelets. The combined tribe is raided repeatedly by the other tribes and they retaliate. After many raids, particularly between the Ucluelets and the Huu'ii'a, a Tsishaa proposes to put a stop to the war. The Uclulets give women to him and to the Huu'ii'a chiefs, and the war ends.

Then the Ucluelet Hithliyas, though married to a Tukwaa woman, decides to kill his brother-in-law in order to obtain his river rights. Despite some opposition, the tribe agrees. The plot fails, but a number of Tukwaa are killed and the rest move away from the Ucluelets. The tribes live in peace, and Tukwaa slaves among the Ucluelets are helped by their relatives to escape and go home.

The Tukwaa chief kills Hithliyas in revenge for depriving him of his subjects. Then he carries out another raid on the Ucluelets. The latter make a last raid and kill the brother of the Tukwaa chief. After this the tribes live at peace. They kill only disease-throwers.

A number of people who were sold into slavery during the war find means of escaping home. A Machthlaa'at slave rescues his Ucluelet wife from slavery at Quinault. They come to live with the Ucluelets. The man is an excellent hunter and his wife is a good doctor. A Quinault comes and tells the Ucluelets that the Machthlaa'at is a disease-thrower, hoping that he can thus punish him for running away. Naahwa, who envies the Machthlaa'at and wants his wife, helps the Quinault kill him. But the wife refuses to marry Naahwa.

Text 8. Some Ucluelet Youths Go Raiding, 3 pp., told by Kwishanishim; happened fairly recently. Some boys secretly plan a raid south of Juan de Fuca Straits. They go without telling their parents, who are worried when they hear about the venture. Later they decide not to cross the Straits so as not to risk being stranded. They attack an isolated temporary house. They get a lot of plunder and capture a woman. They kill her so as to bring back at least one head; they do not tell that it is a woman's head, but the tribe suspects it.

Text 9. Aahuus Try to Trample Tsishaa, 15 pp., told by Tom, who participated

in the affair (about 1880). To avenge an Aahuus princess who claims to have been mistreated by her Tsishaa husband, the Aahuus plan to "trample" the Tsishaa, to beat them and destroy their houses. They intend to do this when they are invited to a feast. The Tsishaa inviters hear about the plan and warn their tribe, which then prepares to fight back. Arriving on a miserable cold morning, the Aahuus delay their raid until they can warm up. The Tsishaa put on a warrior dance as entertainment for their guests, but the latter only become angry and attack their hosts. The Tsishaa men gain the upper hand in the mêlée and also taunt their visitors for bad manners. Though presents are given to placate the Aahuus taken prisoners, the guests are ashamed and sulk on the cold rainy beach. Finally the commoners become angry, berate their chiefs, and go to accept the hospitality of the Tsishaa. The chiefs weaken and go along. Entertainment is arranged for the guests on a much smaller scale than originally planned. Gifts are distributed to emphasize the moral victory of the hosts (and probably also to soothe the feelings of the guests).

In addition to the nine accounts mentioned, there are some references to war in other texts. Thus, the war of Text 7 is corroborated by Tom in his narrative on "How the Tsishaa People Used to Spend the Year," where he tells (p. 1): "I saw Hiikwis at the time when the Tsishaa tribe ceased to be at war with the Ucluelets. . . . They had gotten the land back by beating the Ucluelets in the fighting." Warfare with non-Nootka tribes is mentioned in the same text (p. 37): "They went from Tlushtlushuk from time to time to see the trap. They took along in the canoe a gun and a spear and a bow when they went to see it. They were afraid of the Salish, for they had twice been attacked by the Salish while camped by the trap." However, for present purposes, we can confine ourselves to the war texts.

TAKING OF HEADS

Our material includes a number of specific comments on the reasons for beginning or continuing a war, or for making specific moves in the course of conflict. To judge from the statements, no wars were undertaken in order to take heads, but once a raiding party went into action the outstanding warriors tried their hardest to bring back these trophies. The following text passages bear on this matter (reference to text number and typescript page):

Case 1. Those who had gotten a head or two were proud. It became evident who were going to be the invulnerable warriors among the Ucluelet Arm people. (4:3).

Case 2. He caught sight of [a man hiding]. He thought he would let him live if he was a Flock-place person. He asked, "Which of all the Ucluelet bands do you belong to?" The one who was hiding said, "I am of the Ucluelet Arm people." At once Moves-onto-rocks killed him, beheaded him, and took his head. That was what all the raiding parties were after. They did not want to come back without any heads (7:13).

Case 3. This is what they would do every time they arrived home after raiding, when they came close to the beach from which they had set out. They would take up sea water in their mouths. Then they blew it out in spray, while at the same time they lifted and showed all the heads they had taken. That was why a war party always tried hard to take heads. They considered it shameful if they could not show any. They would lift the heads four times. They would bang with sticks after each time. They did this every time after a raid (7:31).

Case 4. Plumed-head-on-rocks became sick of heart; he was ashamed lest he should not take any heads. As soon as another person appeared, he shot because he had no other weapon (although he knew that the sound of the shot would spoil their ambush). That was why they did not kill all the Tukwaa men. Those who were in the woods heard the sound of the shot. They knew that it was a war party (and escaped) (7:43).

In the following instance, the young fellows who go raiding without telling their parents find a makeshift substitute for a man's head.

Case 5. Down on the beach, they divided the [plundered] goods among all the members of the crew. . . . (Then they looked and) the one that Hishuuhshin had killed was not in the house. He must have still had some life in him and then he must have rolled outside when he was left alone. One of them said, "We might have no heads at all after having killed a man." He said that because they could not find the one that Hishuuhshin had killed. So they killed the woman in order to get a head. The woman died and her head was taken. . . . [When they arrived home,] "All right, lift up what you have taken (as trophies)," (people) said to the war party. . . . The war party banged with sticks and lifted up the one head. "Why is it that the face is (like) a woman's?" . . . They recognized that it was a woman's head. But the war party did not tell that it was (8:2-3).

Much as the heads were valued as trophies, they might on occasion be overlooked because of other interests. Both the foregoing and the following cases are examples of this.

Case 6. "You fellows chop off his head; do it right in the house," said (Angry-face) to his younger brothers. But they never did behead him. They got interested in looking for slaves and things that the house was supplied with (7:27).

The following instance shows how the trophy heads could be used in apportioning the spoils of war.

Case 7. They were enabled to divide the land rightly by those who had become slaves, (who told them) where the Namint chiefs had (land) rights. They would recognize the head. "You have caught so and so; his rights were at that place," they would say and that is how they divided correctly (4:9).

It does not follow, from anything in the foregoing discussion, that every raid was undertaken with the idea of getting as many heads as possible. On the con-

trary, a number of cases will be noted in which the purpose of the raid was to kill certain individuals or where the raiding party was satisfied after killing just a few. We also have two instances in which the object was to maul the men of the other tribe and to teach them a lesson, but not to kill any (Cases 24 and 26).

We find two instances of men who are frankly opposed to the practice of killing people.

Case 8. The Huu'ii'a man named Always-speaks-right would always talk. He never went along on a war party. When the raiders landed he would speak, "You fellows wake up early in the morning and cook what you have been hunting. Have you not gained something from what you were doing?" He would say this in irony when the ones who had been on a raid landed. [The Ucluelets heard about it and. . .] They said that Always-speaks-right would never be killed; that no Ucluelet who saw him should kill him (7:21).

Case 9. The Coiling band (chief) stood up. He stood up because he had failed again to kill any person; he always went raiding with the idea of not killing anybody. He spoke with joy that he had only captured a person, having taken the son of Getter-of-soreface-whales. Hiy! He lifted up the boy who had become his slave (to show him off) (5:6).

SLAVES

Where adult males were killed and beheaded, women and children were taken as slaves. And the capturing of slaves seems often to have been pursued with greater diligence than the taking of heads (see Cases 6, 9). In a few instances raids were made explicitly to capture slaves.

Case 10. They started talking about where they might get slaves to use for buying guns. (Someone) said they should go to the Tsishaa people because they were just a small tribe. Tough-mouth opposed it. He said, "Let's do it right (with) a large tribe. Let's go to the Huu'ii'a tribe" (7:9). [Incidentally, Tough-mouth was married to a Tsishaa wife.]

Case 11. The war party of two tribes, Ucluelets and Clayoquot, went home carrying sixty heads. Sixty Tukwaa men were killed in one night. Many women and children were captives. They were to be sold for guns which the Ucluelets needed. The Clayoquot got as captives all the women and children who had gone to the back of the houses. [In the raid, the Ucluelets had attacked the houses while the Clayoquot laid an ambush in the woods to get those who tried to escape.] They did not kill any women and children; they killed only the men (7:12).

In the following exceptional case, a number of slaves are carefully captured (even at the neglect of getting a head, this being the continuation of Case 6), only to be later butchered in an orgy of revenge.

Case 12. The raiders now assembled. They were holding the slaves they had taken. The (man) named Wiischaa'up got angry; he was reminded that all his children had been made captives the very first time the Huu'ii'a tribe raided them. He said they should not take captives. He immediately began killing them. He

would cut open the women's bellies. He left none alive; he killed them all. Angryface did not hinder what his younger brother was doing because his heart was also sore over his older brother who had died. . . . Angryface had taken one whaling canoe. He had gotten it as plunder (7:29).

PLUNDER

The plunder of portable goods was a regular part of most raids and certainly this must have been a consideration in the decision to undertake warfare. Nevertheless the authors of the texts, while exceedingly frank about motives, never tell of anyone proposing a raid for the sake of plunder. This may indicate that spoils were a secondary consideration, that no one would have taken the risks of raiding merely to get an artifact that he could make himself by an expenditure of effort. It would be very important to know if this is true, since it would illuminate the relative evaluation of work and war. The following few passages are the clearest by way of showing plunder as a consideration in war; however, they are only a fraction of the cases in which plunder is mentioned.

Case 13. They landed at Back-beach. It looked as though the goods they had in the canoe had been bought [perhaps meaning at a trading post]. They began unloading the things. There was a lot of goods that they had plundered because the raiding party had been lucky (8:3).

Case 14. And the Ucluelets plundered the houses in the usual way (4:8).

Case 15. Then they did what they (always) do, they took the goods with which the houses were supplied. They started taking it outside. They took it down the rocky shore. Then they set the houses on fire. They broke up the poor canoes. They only took the good ones (5:5).

Case 16. Then the Huu'ii'a people started breaking up the Ucluelets' canoes. They did so to some of them and took away the good whaling vessels (7:8).

LAND AND FISHING RIGHTS

Much more important than portable booty as a reason for war were territorial rights. We have three very clearly stated instances, aside from several other implied cases, of this motivation.

Case 17. The Ucluelet Arm people . . . took counsel. The Ucluelets had no river and that was what they were going to discuss. They were going to look for a river. Only the Tlakmakis people (a Ucluelet band) had a river; they had Tlakmakis Creek. Also Pathluus alone had Yasaayis Creek. These two creeks were both small, for which reason the whole tribe never went to them (to fish). They counted the number of (places) they would go, looking around for those who had good fish (from) all the rivers. They began with the Tukwaa tribe, went on to the A'uts, then to Tabu-over-beach, then the Uchucklesits, then the Namint people. They intended to go as far as the Somass (River), landing at each place and seeing who had the very best fish. [After visiting and being feasted at the different villages, they decided

Namint had the best salmon, so . . .] "All right, . . ." they said. "Let us kill them off and take away their river." The whole tribe said, "All right" (4:1,3).

Case 18. The two tribes, the A'uts and the Hachaa, thought they would raid and kill off the Tukwaa people and would (thus) get all their land. And so they raided them (5:1).

Case 19. The Ucluelet named Hithliyas, who was married to the sister of a Tukwaa chief, got an idea. He longed to get a river. A child was born to him by the Tukwaa woman. He said to himself that he would obtain the river at Dug-beach if he would kill his brother-in-law, the Tukwaa chief. . . . Tough-mouth would not agree to let him do it, because the Tukwaa and Ucluelet tribes were already done with fighting. The Ucluelet chiefs were married to Tukwaa princesses. Also the Tukwaa chiefs were married to Ucluelet women. That was why Tough-mouth did not want Hithliyas to kill the Tukwaa chief. Only the warriors were willing that they should do so and that their relative be killed. They were willing because the Tukwaa people had caused the tribes to become bad (towards them) . . . [When those who wanted to fight prevailed,] Angryface also spoke. He said that *he* would kill his relative, the chief of the Tukwaa tribe. Hithliyas was also strong in saying *he* would kill him. They quarreled as to who should kill the chief. . . . They quarreled because the one who got his head would become the owner of the land (7:33-34).

Since the food supply on Vancouver Island was generally very plentiful, we must not assume that the desire for new territory was typically based on a real shortage of food. In only one narrative is the motive described in these terms.

Case 20. The Uchucklesits became relatives by marriage to the Kiihin tribe. (The latter) had the same amount of California whales; but when they drifted to their land they took them to the Uchucklesits [drift-whale rights had been given as dowry in the marriage]. The Kiihin commoners were in miserable condition. They took counsel and said they would kill Blowing-in-front-woman [and her two sons—in order that the drift-whale rights revert to the Kiihin tribe] (1:1).

It is worth mentioning that in a few cases the winners of new terrain did not take possession. First of all, we note that the Clayoquots annihilated the Hachaa (Text 5) but we have no indication of their ever having taken over Hachaa territory. It is likely that they realized they could not easily exploit territory so far from their normal location, and therefore gave it away. At any rate, we seem to have such a motive in the following.

Case 21. Then the war party started for home. A Tukwaa man spoke while they were still on the way. He said that he would not go to Namint where the Namint people were killed off. He said he gave as a gift to his Flock-place [Ucluelet band] relative whatever privileges had belonged to those he had killed (4:8).

In the Nootka scheme of things, land rights are in the same general category as ceremonial privileges: the right to use certain names, songs, dances, rituals. Title to such intangible property, just like territory, is hereditary and can also

be claimed by the one who kills the owner. Yet our narratives give no instance in which tribes go to war over non-territorial rights.

RANK

Since the clans in any tribe have a given order of rank, it is not surprising that occasionally a band should attempt to eliminate those above it as a means of gaining higher status. We find this happening, but only in two cases. Of course, in such cases, increased status carries with it also increased territorial and other rights.

Case 22. "Well, let's slay the Midbeach-pole family; let us be the chief (band)," planned and said the Kaanakim family, the second ranking family of the Aahuus tribe (2:1).

Case 23. . . . Day-at-midbeach, the half Huu'ii'a [and half Ucluelet] chief, was saying that he would stop the raiding of the Huu'ii'a people when all the chiefs were killed, Pokes-past-head, Coiling-sound, Gliding-about-sea; Day-at-midbeach wanted to become the only chief [among the Ucluelets] (7:9).

REVENGE

Revenge or retaliation is the reason most frequently given for warfare. It can be in response to a variety of real or alleged offenses: bullying and rough treatment (Cases 24-26), attempted murder (27), murder (28-31), a raid (32-33), inciting to raid (34), depriving a chief of his commoners (35), plundering or robbing (36-37), burning houses (38), stealing magical secrets (39), enslaving a close relative (40), collusion with the enemy (41), despotic treatment of subjects (42). There is some small tendency to make the retaliation fit the offense, but a full-fledged raid, with the taking of slaves and heads and booty, evidently was considered a fit punishment for anything, for bullying or robbery or enslavement, as well as for murder and raids. It is also to be noted that revenge is relatively optional; the mention of no revenge in Case 30 ("the Uchucklesits never took revenge for the Ucluelet war party") is only one instance among several in the texts showing that a tribe could simply disregard an incident if it so chose. They could also remember an affront at a convenient moment, as in Case 19. Passages bearing on the motive of retaliation follow.

Case 24. There was a Nitinat called Sounding-on-rocks who owned a slave and sold him. The buyer was Plants-in-ground, the Ucluelet. He did not have the slave for long. . . . He . . . escaped from his master. . . . Sounding-on-rocks was all the time at Ma'akuu'a (Tukwaa village) because he was related by marriage to the Tukwaa tribe, his sister being married to their chief. . . . Plants-in-ground went to ask that they should return part of the cost of the slave who had run away, because he had owned him so short a time. Plants-in-ground tried asking in every possible

way. Sounding-on-rocks did not give him anything. It was his brother-in-law, the Tukwaa chief, who made him firm in not giving anything. The brother-in-law of Plants-in-ground, who was called Tough-mouth, began quarreling (with) the Tukwaa chief. They came near grabbing each other because they quarreled so (hotly). The Ucluelets got ready and went home without getting what they had gone after. The bad-tempered young men took counsel while paddling along. They said they would make (the people's feelings) get bad in the place they had set out from. "Say, fellows," said one young man, "let's break the ends of our paddles. We will say, 'The Tukwaa people are getting to be too bad, they broke up our paddles'." . . . They arrived at Hiikwis. While still on the beach they told, all miserable, that their paddles were taken away and broken to pieces. "Well, let us take revenge," said the Ucluelet chiefs. "The Tukwaa people are too mean. Let's take revenge. Let us set out tomorrow," said the chiefs. "We will go there strictly as a war party," said one chief. Plants-in-ground spoke and said, "Let's not do it that way. Let's go just to have fun," he said. "I am afraid that I am not a (top-notch) chief, that I do not have a sword," he said [meaning that he had no right to make war]. "I have many older brothers who are chiefs; therefore I cannot be the one to lift the sword." Then spoke my uncle, the one (named) Pokes-past-head-on-rocks; he said, "Let us just wrestle with them. Let's only leave them nearly dead. The Tukwaa want too much to be a (fear-inspiring) tribe, they have become too mean." (He said this) though he belonged to the Tukwaa tribe [on his mother's side]. The elder brothers of Plants-in-ground also said so. . . . [After landing at Tukwaa] first they went along the beach breaking the canoes. . . . Then the Ucluelets ran onto the roofs. . . . They were only splitting up the boards. They did not break the houses down. They would rough up any Tukwaa man who tried to show fight. They would let him go when he was nearly dead. They only roughed him up pretty well. They did not break up their buckets; they did not split the boards all to pieces or deprive them of everything. Then they went home to Hiikwis. . . . (7:2-3).

Case 25. [After the Ucluelets had roughed up the Tukwaa, they] forgot what they had done to the Tukwaa people, that they had treated them badly. The Tukwaa chiefs took counsel. . . . The chiefs of the Tukwaa tribe gave girls to the Huu'ii'a (chiefs), paying them to make war against the Ucluelets. They also did that to the Tsishaa (chiefs)—had girls marry them (as) pay to make war against the Ucluelets. The Huu'ii'a and the Tsishaa tribes were willing. The Huupachas tribe was also willing. They were also given women. The Tsishaa asked the Uchucklesits to go along. They were willing because the Ucluelets bullied every tribe (7:3-4). [Also, bearing on the same case,] . . . the Ucluelet bullies would make fun of [visiting tribes] and set their canoes on end so that the sterns were buried in the sand. That was why the Ucluelets began to be raided by every tribe, because they made sport of everyone that way (6:4). [Although simultaneous raids were planned against all Ucluelet settlements and camps, it is interesting to note that the blow was softened at many points. For example,] The Tukwaa people, whose mind was not to kill, made fools of themselves. They only pretended they were going to be a war party but did not attack. . . . Carpenter [the Huu'ii'a chief] did not let his commoners attack because it was his brother-in-law. . . . Tough-mouth was not killed. His canoe

was not broken up by the Tsishaa men. "Don't go into the bush, Tough-mouth; don't you flee," they told him at the time they attacked. Therefore he really did not flee. They did that because he was married to a Tsishaa woman and also because his mother was of the big Clayoquot tribe. They were afraid of getting mixed up with the Clayoquots (7:5).

Case 26. The Aahuus tribe was angry for a long time because of the time when the Tsishaa people wiped out the (canoe party) going home [see Text 3]. The late younger brother of Facing-back was married to an Aahuus woman. She would complain that they bullied her and that her husband always beat her. . . . [Some men who had gone to invite the Aahuus to a feast given by Facing-back get information that the Aahuus people] were not going as guests but as a war party against the Tsishaa tribe, that they were going to avenge the one beaten by her husband, that they would break down our houses. . . , that four or five together would hold (a man's) arms stretched out [while they beat him]. There were 200 Aahuus men and only 80 of us including the Huupachas tribe. . . . This was the idea of the chief, called Nuukmiis, whose sister was to be avenged (9:1, 3).

Case 27. Blowing-in-front-woman [Kiihin princess married to a Uchucklesit] landed at Uchucklesit. She went into her house and threw down her paddle. She went back out and called the chiefs. She went about the village getting the twenty chiefs. She spoke quickly. The chiefs came and all twenty went into the house. She broke a small cedar stick. "Listen to me, chiefs," said Blowing-in-front-woman, "I have something important to tell you. The tribe I belong to tried to kill your chiefs. These children of mine are not my sons. They are the sons of my husband, the chief of you Uchucklesits." She threw the little stick out to the middle of the floor. "Here is my tribe. Go raid and kill the tribe I am from. Don't do it because of me. Do it because they tried to kill the chiefs. My children are your chiefs" (1:2).

Case 28. Aahuus people, just passing by, behead a Tsishaa person. He was fishing with hook for small cod at Edgewise-on-water. They killed and beheaded him and took his head along. . . . Immediately the Tsishaa people got angry (3:1).

Case 29. The Clayoquot also got the idea. They said that the Hachaa tribe was bad and that they had killed a Clayoquot. For that reason the Clayoquot became firm in their decision. They said they would side with the Ucluelets (5:3).

Case 30. The Ucluelet, Dog-dancing, grew up. The insides of both arms were tattooed with representations of the lightning snake. His breast was marked with a thunder representation. Dog-dancing was a whaler. [At the invitation of the Uchucklesits] Dog-dancing came and settled at the place called Gooseberries-on-rocks, close to the mouth of Uchucklesit Harbor. [Before long, the Uchucklesits kill Dog-dancing. . . .] When he died, Dog-dancing was closely examined. His tattooing was examined. They would cut off an arm and study it. The Ucluelets planned and said they would take revenge, that they would go on a war party. . . . Many Uchucklesits were killed. . . . The Uchucklesits never took revenge for the Ucluelet war party. The minds of the Ucluelets were soothed, because many had died along with [in revenge for] Dog-dancing (6:1).

Case 31. Angryface was angry that his older brother had died. He rubbed himself and ate no food for eight days. He did not touch food. He did conjury that

he should succeed in avenging his brother, that he should kill many as a death sacrifice for his late brother (7:24).

Case 32. . . . the Hachaa and A'uts tribes again went on a raid; they went to the Ucluelets. . . . So the Ucluelets raided them in return. . . . (Some) Ucluelets had made themselves a fire. The A'uts men thought it was Tukwaa people. They killed them right away. That was why the Ucluelets joined in (5:2).

Case 33. . . . They were again raided by the Huu'ii'a and Tsishaa and Huupachas and Uchucklesit tribes. In revenge, they ambushed those who were out hunting food. . . . (7:13).

Case 34. Pokes-past-head said he would kill the Tukwaa people because they had made the various tribes angry (7:9).

Case 35. One-at-midbeach said, "Well, let's take revenge against Hithliyas. I have never felt right since I was left without any commoners." [They invite Hithliyas to a feast and shoot him. Then] the people in the house ran up to him. They began stabbing him. As they did so, they said, "We have now taken revenge on you for killing us at a feast" (7:39-40).

Case 36. . . . Someone saw some Neah Bay Indians towing a whale toward Gliding-about-beach. Many canoes put out to tow it in. . . . They tied it to the beach. Then the chiefs took counsel. They said they would cut it up. The ringleader was Two-hundred-up. . . . The whale disappeared from the beach. It took (only) a short while because many together were cutting. Everybody in the tribe got some. Those who wanted to kill the Neah Bay people backed down. There were many who did not want to kill them, therefore they were not killed. They started for home. . . . Then the Neah Bay people said, "Let's go raid them." . . . They . . . made up a war-party. . . . The Neah Bay war party began shooting while they were still on the water. Then one of them recognized Two-hundred-up as he went down the beach. At once they got a crack shot to shoot. The crack shot was a slave. Two-hundred-up was hit. The Neah Bay men went only that far. When they got the one whose idea it had been to rob them of their whale, they went home (6:5).

Case 37. Pokes-past-head got to be expecting Day-at-midbeach; he heard that he was intending to return home. Pokes-past-head was angry. He said he would kill him because he had robbed him even though he was a close relative and was a neighbor chief in the land of the Ucluelets (7:9).

Case 38. I do not know how many were killed in each place of all the places [the Ucluelets] raided. Everywhere some died. They also set fires. They took revenge for all the times they had been burned out (7:26-27).

Case 39. The Uchucklesits had no suspicions when they went to the Ucluelets from time to time with gifts. Two-hundred-up would go out in a canoe while the gift-visitors were still there. There were three in his crew, (for) he had two paddlers. He would kill them off when they started for home. . . . He killed many in revenge for their killing his uncle. . . . For a long time he did this, not forgetting that Uchucklesits had caused him to lose (whaling) secrets. . . . That was why (Two-hundred-up) did not feel good-hearted (toward them). He kept killing Uchucklesits for a long time. . . . He did it for a long time because he did not see the one who had caused (the death) of his uncle (6:4).

Case 40. The child of Coiling-sound was the slave of his cousin. He said he would kill his cousin. His younger brother also went with him to Bamfield Creek . . . to Buckles-up, who had the child of Coiling-sound as a slave. . . . Although they were a war party, they landed in the daytime at Bamfield Creek. Buckles-up thought . . . that he had come to buy back his son. Coiling-sound said he had come to buy him back. He gave a canoe and all sorts of valuable things that the old-time people had. Buckles-up did not give up (the boy). He said that he valued him highly, that he was not his slave, that he was only keeping him and raising him, that he would not sell him. He only let Coiling-sound sleep along with his son at night. He did not allow him to take him home. . . . [At night Coiling-sound and his relatives killed Buckles-up.] They lopped off and took his head. After they had set the houses on fire, they paddled away. Coiling-sound had got his son (7:23-26).

Case 41. Day-at-midbeach . . . nearly died. Then someone said that he would be killed when they fought again. It was known that he had passed guns loaded without shot (to Ha'utsikuutl) when they were fighting. Also they heard that he was trying to get all the Ucluelet chiefs killed and that he would stop the Huu'ii'a tribe from raiding [only] when all the chiefs were killed (7:21).

Case 42. Kaanakim would take away (the catch) that was brought in by fishermen; he would grab the silver salmon from one who came in with some in his canoe. He would not pay for it, although chiefs who owned sea (fishing rights) would always do so. They would leave one for (the fisherman) who brought in two or three; they would leave two from four or three from five, taking two from him. That way they would pay him. . . . Our chiefs are not like that. . . . They did not do that way all the time but only if they wanted to give a feast of things obtained from their sea; but Kaanakim did that all the time, robbing the Aahuus men who went out to fish. He would take away a good canoe that someone made. He would take away boards as soon as a person had finished adzing them. He would take all the roots that people dug, though the chiefs would always leave some in the basket and not take all the wild clover root. And he would take it not in order to give a feast but would keep it just for his own use. Only when they were using it for a feast would chiefs do what they called upsetting baskets on the beach, but they would not take all. The wife of (Kaanakim) would always pick out and take away the best large bundles of yellow cedar bark that were put to dry. . . . She would also select and plunder the biggest bundles of red cedar bark. Because of that the Aahuus people were unhappy, for their former chief had not treated them so (2:1-2).

It is quite evident that in some cases an act of retaliation was carried out with a view to preventing further harm in the future. This is especially true of Case 42 above. In addition the following three instances give this factor more explicitly; 43 states further considerations in the same incident as 42.

Case 43. They were of one voice, because all the Aahuus people had been robbed. He had even done it to the chiefs, so they were not acting without cause. "The Kaanakim band is bad," they said, "and they might slay you remaining chiefs. They want to become the only chiefs in the village and therefore they will kill you chiefs of other bands" (2:3).

Case 44. The Clayoquot chief, Getter-of-ten, heard that the Huu'ii'a tribe was going to raid the Tukwaa, that all the Ucluelets [who were living among the Tukwaa] . . . would be killed. He said at once that he would lend warriors and guns. He lent forty warriors to take revenge for the Ucluelets. . . . The Ucluelets, who had fled to the Clayoquot on account of the war, went home now. They went to their (Tukwaa) relatives, their brothers and nephews (that is, cousins and sons of cousins); they were the ones they would kill (7:10).

Case 45. [After killing a Ucluelet] Plumed-head-on-rocks began to think. "Let's get on top (forestall them)," he said, "Let's kill our neighbors. Let us kill them first. The Ucluelets will come and raid us." The canoe parties were out after bark and it would therefore be easy to kill them. [The Tukwaa lay an ambush and kill a few men, and they themselves are soon raided in return.] (7:41).

CONCLUSIONS

On the basis of the forty-five passages, seen in relation to the narratives from which they are taken, we can draw some general conclusions about motivations to war among the Nootka.

Retaliation and hope of gain have to be seen together. In almost every instance, those who propose warfare are able to point to some offense that has been committed against them; on one occasion (Case 24), the offense is invented. In some cases, warfare is proposed to the tribe simply and frankly in terms of advantages to be got. Sometimes revenge and gain are mentioned together. In a few instances, the narrative indicates clearly that retaliation is a mere pretext or at least a very secondary consideration. Even in the many passages in which no other motive than retaliation is mentioned, we can only assume that those who sat in council and planned the raids must have been very sensible of the specific material benefits and the prestige that would come to them from a successful conclusion of the project.

There was no inescapable and compelling law of blood revenge among the Nootka. Instead, it was regarded partly as a form of consolation for the bereaved to know that their kin had died "along with" others; in this respect, the result was similar to that gained by killing a slave or by burning the house and canoe of the deceased. But, while retaliation was optional, it was nonetheless a universally accepted form of behavior. This accounts for the frequency with which it was used as an argument for convincing others. Those who propose warfare tell their fellow tribesmen, in effect, "You have been harmed; you have been insulted; you have been belittled." The significance of such arguments has to be considered in the light of the whole idea of prestige among the Northwest tribes.

The basic rationale of retaliation includes the idea that it may be expected

to serve as a deterrent to future offenses. On the other hand, retaliation may provoke return action. Hence, it is not surprising that the deterrent value is rarely used as an argument for revenge. Nor is it surprising that the relative strength, through size and alliances, of two potential enemy tribes appears to be a principal consideration in deciding on war or peace.

As for the other gains to be derived from war, slaves and booty and heads were to be expected in any raid. Slave taking seems to have had the greatest concrete importance and at least in some cases was the major consideration for undertaking a raid. The taking of heads was never a reason in itself for proposing warfare, but those who sought renown as warriors were unhappy unless they could return from a raid with some trophy heads.

The hope of gaining territorial rights depended upon the successful conclusion of a decisive war of annihilation. This means that either the attacking tribe had to be very powerful or the attacked group very weak before such a project could be reasonably proposed. In view of the vulnerability of Nootka villages to attack and because of the bloody thoroughness of ambushes and night raids, it was not comfortable for any tribe to be in a protracted state of war with a powerful neighbor. This accounts for the reserve with which the fighting went on, despite the great ambitions that motivated the leading people in this society. (The potlatch was a much safer expression of ambition.) So, unless a tribe was prepared to bring a war to a quick and decisive conclusion, it either avoided conflict or else carried out small raids against relatively weak neighbors, hoping the matter might be forgotten without bringing on a long and troublesome time of war.

The bonds of kinship and the internal conflicts of kinship were vividly reflected in warfare. Since most tribes were made up of several clans or lineages, and since the preferred form of exogamy implied marriage into an altogether different tribe, a man frequently had closer relatives in the enemy tribe than in most clans of his own. Nevertheless, our material only contains one case of a man siding with an enemy tribe directly against his own: Day-at-midbeach, who plays traitor to the Ucluelets. His motivation is the hope that his mother's tribe (the Huu'ii'a) will kill off all the other band chiefs among his neighbors, so that he may be the highest and only chief. On the other hand it was usual to make exceptions of one's own kin in carrying out raids. The head chief, and the others in proportion to their rank, were able to influence their tribal councils against making war on their relatives. The lesser chiefs could at least take steps to prevent harm to their kinsmen. Particular concern was shown for a mother's or wife's immediate family. Consideration might or might not be extended to cousins and more distant kin.

The caste system had a great influence on the war complex. The data as they appear in the texts have not yet been fully analyzed, but several typical facts are already clear. The hot-headed ones who clamored to go raiding were frequently the younger brothers of the chiefs. In peace, their status consisted in being the chief retainers of their elder brother, but this was a limited prestige (their descendants would be commoners). The fortunes of war could increase their stature in many ways: they could win prestige and property and, perhaps by killing an enemy chief, rise to a minor chieftainship in their tribe. Or, should their elder brother be killed in battle, they would succeed him. For a commoner or a slave to rise to chieftainship was much more difficult. Hence the lower classes were hardly the ones to instigate wars of aggression. Ordinarily, they accepted the proposal of their betters and went along for the sake of a small share in the booty. In one case (26) we find commoners opposing their chiefs because of the hardships they must undergo; in one case (42) they rise up against their chief; and in one (20) they take the initiative by proposing action calculated to restore food rights to their tribe.

Lesser chiefs, the heads of clans other than the ranking one, might be ambitious in a way that is reminiscent of younger brothers. The head chiefs, though perhaps not as adventuresome as the lesser aristocracy, might be the ones to propose wars of annihilation. Proposed raids normally had to be approved by the entire council of the tribe. But in such decisions the head chief had the greatest influence, since the weight of each man's voice corresponded to his rank.

Our material opens up many problems and gives valuable spontaneous data on the operation of a society under conditions of war. Clearly, the method of having natives give accounts in their own language brings out many important facts with a clarity that would be hard to surpass by other techniques. At the same time, the picture is by no means complete and is certainly uneven, reflecting the special interests of the narrators. For greater clarity, supplementary versions should be collected from people of different tribe, lineage, caste, and sex. Finally, it is evident that the material contained in native narrative should be enriched, checked, and clarified by systematic questioning of informants after a preliminary analysis. It is a pity that this was not accomplished in the time when men like Tom and Kwishanishim still lived. But much can still be learned. It is to be hoped that new field researches may be undertaken to deepen our understanding of Nootka culture.

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NOTES ON THE INDIANS' BELIEF IN THE FRIENDLINESS OF NATURE

FRANCES DENSMORE

THE APPEAL of the Indian to special spirits has been stressed by ethnographers but the attitude underlying this approach has not, as a rule, received the same consideration. While this has not been a subject of special inquiry by the writer, certain statements have been made concerning it, by Indians, in connection with the recording of their songs. These statements show a belief in the natural forces as benefactors of the Indian, an approach to these benefactors, by qualified persons, being on what might be termed a basis of friendship.

One of the oldest singers among the Chippewa was Niski'gwûn (Ruffled Feathers) who was also an old warrior. In his youth he had a dream of smooth, quiet water, and he related an incident when the power given him in that dream enabled him to appeal to the Spirit of the Water.[1] He was travelling with a party of Indians in northern Minnesota. When they reached a certain river they found the water too rough for them to cross. Someone asked, "Does anyone know how to treat with the Spirit of the Water?" Niski'gwûn volunteered for the task, strewed tobacco on the water, and made his appeal. In half an hour the wind veered, the water became smooth, and the Indians went on their way.

In reply to a question whether the presence of waves indicated anger on the part of the Water Spirit it was said that "Waves do not mean that the Water Spirit is angry with those who wish to cross. It is natural that there should be waves and rough weather as well as smooth water, but if the Water Spirit is asked by the right person, he can quiet the waves at that time so the people can proceed in safety." An offering of tobacco, in connection with any act, was not regarded as a "propitiatory offering."

In the Chippewa tribe the writer was fortunate in having, as one of her interpreters, Mrs Mary Warren English, who was very discriminating in the choice of words in her translations. She objected to the word "pity" used by some other interpreters concerning the attitude of the spirits, saying it suggested condescension, while the Chippewa term was used only by persons who were equals. Mrs English was once asked about the gods (manidó) of the Chippewa before the white men came: she said that they revered a spirit called gijié manidó, meaning

1 Frances Densmore, *Chippewa Customs* (Bulletin, Bureau of American Ethnology, no. 86, 1929), p. 81.

"good, kind spirit." In response to a question whether this was the same as gítci manidó, meaning "great spirit" (the term commonly used at the present time), she replied "I suppose you might say they were the same. Anyway gijié manidó was the greatest of all their spirits."

When recording songs at Neah Bay, Washington, the writer obtained records of nine Clayoquot songs designed to calm the sea, recorded by Mrs Guy, a Clayoquot woman from the west coast of Vancouver Island who had married a member of the Makah tribe.[2] Her husband, James Guy, said they had never heard of any anger on the part of the ocean or the forces of nature. They seemed surprised at the question. Mr Guy said that his people put oil on the bow of a canoe to smooth the surrounding water, but neither he nor his wife had heard of putting anything in the water to calm the waves as a "propitiating offering." Mrs Guy said that if caught in a storm they sang songs in their canoes and that she "believed these songs were a great help." These songs were very old, and some of them addressed the breakers in a familiar manner. One song contained the words, "Your teeth that are trying to get the people are long and homely." Another contained the words, "Please be still, you have treated us so badly." In these songs was also found an affirmation of calm weather, one song having the words "What beautiful weather this is; it is as calm as when the dogfish are moving in." Another besought the breakers, saying "Breakers, roll more easily; don't break so high; become quiet."[3] Another song sung in rough weather had words concerning the belt that fastened the blanket around the body. The words are, "Give me my belt; the water is so calm that I shall go out in the canoe."

Another old Indian, in answer to a question, said "How could nature ever be angry with us when we get everything we have from nature—our food, material for our dwellings and clothing—everything is given us by nature?"

Among the Indians at Neah Bay no mention was made of the visible form of a spirit that controlled the waves. They seemed to be without such control. In this connection it is interesting to note that in certain songs of the corn harvest at Santo Domingo Pueblo, recorded by the writer for the Southwest Museum, "the plants speak but are not represented as human beings; thus we hear the corn itself, not a 'corn maiden.'"[4] Is it not possible that such an attitude toward the manifestations of nature is more primary than any belief in embodiment or

2 Frances Densmore, *Nootka and Quileute Music* (Bulletin, Bureau of American Ethnology, no. 124, 1939), pp. 278-279.

3 *Idem*, pp. 281-282.

4 Frances Densmore, *Music of Santo Domingo Pueblo, New Mexico* (Southwest Museum Papers, no. 12, 1938), p. 110.

other form of representation? Does it not underlie and precede what we are accustomed to call religion?

A different attitude was found among the Yuma, where Charles Wilson, the leading medicineman, said that he received songs from White Cloud who controls the lightning, thunder, and storms.[5] The songs were given to him in a dream. Wilson said that White Cloud appeared to certain medicinemen in dreams and gave them power to bring rain or cause a sandstorm. "If a man with this power were with a warparty, he could summon a sandstorm to conceal the warriors."

In his book, *The Ancient Maya,* Dr Sylvanus Morley, writing of the Maya religion, says:

> At first the Maya religion probably was a simple nature worship, personification of the natural forces that influenced and in large measure shaped their lives. . . . Such a simple, natural religion required little organization; no priesthood or esoteric lore to interpret it, no set ritual or elaborate ceremonies to practice it; not even specialized places of worship, such as temples to house it.

Further, Dr Morley states that

> . . . the simple nature faith and mythology of the common people, much more generally shared [than the esoteric religion and philosophy], has, in part at least, survived down to the present day.[6]

Mary Austin, from her study of Indians, wrote as follows concerning a certain Paiute Indian:[7]

> It was Tinnemaha, the medicine-man, who explained to me what all my study of aboriginal methods has confirmed—that Indians do not pray to a god, but to a principle existing in all created life, accessible to man, responsive to him, workable. It went, for Tinnemaha, by the name of The Friend of the Soul of Man—something alive and kindly. By prayer you laid hold on it and if you prayed aright you got what you asked. There were various ways of reaching this Friend, and some people were more successful at it than others. . . . Prayer, to the aboriginal, is an explicit motion of the inner self which puts you in touch with the living principle which controls the existing emergency, whether it be of sickness or the need of rain to make the crops grow. . . . This is the basis of all activities called religious. . . . I set out to then learn the Indian method. What I discovered first was that the value of sustained rhythmic movements and noises lay in their power to break the tension of immediate circumstances and their hold on the attention. . . . I learned . . . that

5 Frances Densmore, *Yuman and Yaqui Music* (Bulletin, Bureau of American Ethnology, no. 110, 1932), p. 111.

6 Sylvanus G. Morley, *The Ancient Maya* (Stanford University, 1946), pp. 208, 213.

7 Mary Austin, *Can Prayer be Answered?* (New York, 1934); see also *idem* in *The Forum and Century,* May-June, 1934, pp. 269-272.

the drum was the most efficacious because one can play it and dance at the same time. . . . Among the saints as among the savages, prayer was not so much a thing asked as a thing done—a linking of the individual mind with supernatural sources of power. . . . The indispensable process of all methods appears to be a clear realization of the effect that is desired. That is why the Indians worked steadily toward personalization of the forces believed to be working for them.

Such ideas as these were carried from one generation to another by the medicinemen, with their dreams and their fastings, yet they are shared by the common people who find comfort in them. Is it not possible that the calm of Indian character has its roots in this old belief in a kind, unfailing principle that surrounds the Indians with aid and protection in their daily lives?

RED WING
MINNESOTA

A PREHISTORIC CAMP SITE AT ROCK LAKE, ALGONQUIN PARK, ONTARIO

KENNETH E. KIDD

THE SIMPLE, MARGINAL CULTURES of prehistoric times north of the St Lawrence are relatively little known since more attention has been given to the comparatively spectacular sites. The present report on a site of north central Ontario offers evidence of one or, more probably, two superimposed cultures of simple content.

Following up reports that Indian sites had been found in Algonquin Park, Ontario, a reconnaissance party from the Royal Ontario Museum under the direction of the writer,[1] visited that preserve in the summer of 1939. The reported sites, on investigation, proved to be unrewarding, but during the course of exploration, one productive site was encountered. In view both of the rarity of the work done in this region and the nature of the finds at this site, it is deemed worthy of being reported.

Algonquin Park occupies a portion of the District of Nipissing and part of the County of Haliburton. All of this region lies on the southern fringe of the Laurentian Shield, that vast outcropping of Precambrian formation which characterizes the north central portion of the continent. Low, rounded hills, a vast network of lakes and streams, and a sparse soil-covering are some of its outstanding features. Aside from its mineral wealth and its attractiveness as a recreation area, its forest crop has been its mainstay.

The site about to be described is situated at the west end of Rock Lake, in Haliburton County on the southern border of the Park. The Madawaska River drains into it from the west, passing through a long series of lakes on its way to the Ottawa River. Like so many of the little lakes in the Park, this one is long and narrow, with a small plain at the northwest end, and hemmed in lengthwise by small ridges of rock rising perhaps to 400 feet in height. The little plain, about five acres in extent, would present an attractive site to a travelling band of Indians for an overnight stop or even for a more extended foray such as a hunting trip might require. The beach is excellent, and the position sheltered; the best in fact on the whole shoreline.

1 The party consisted of Mr J. N. Emerson, Mr R. Currelly and the writer. The assistance of the first two workers is gratefully acknowledged, particularly the advice of Mr Emerson on pottery analysis.

The entire region was cut for timber three generations ago. The site, meanwhile, was occupied by at least one white settler who built on it a house or a barn or both. The land was plowed or dug for a garden. The buildings were burned, but the site has never been permitted to return to bush.

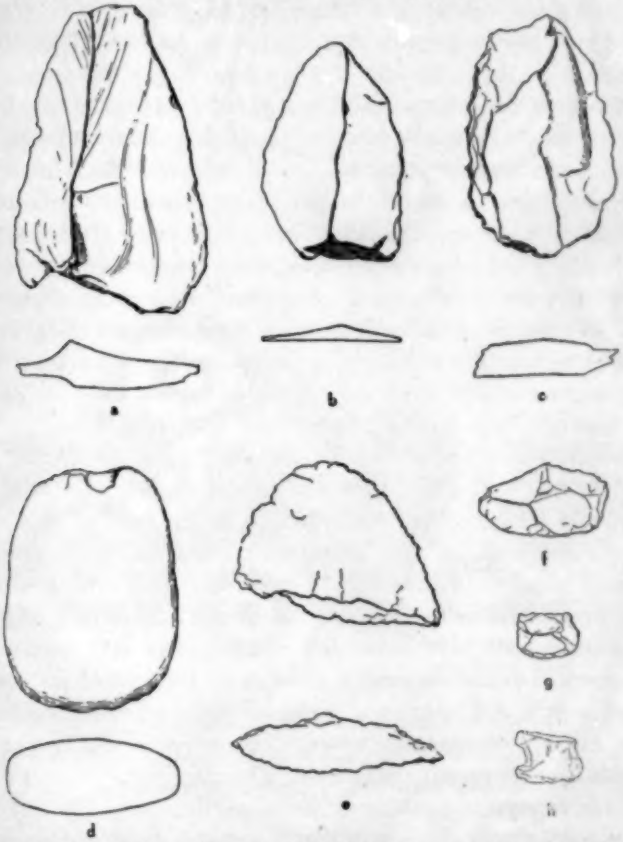

FIG. 1. Stone artifacts from the Rock Lake site: a-c, large slate objects; d, granite axe; e, fragmentary quartz point; f, g, chert scrapers; h, end of small quartz point. (Specimen numbers: HD. 14399, 13780, 14162, 14236, 14071, 14063, 14187, 14070.)

No accurate or reliable account of the inhabitants of the territory under discussion tells us what people lived there at the time of discovery. We may be safe in assuming that they were of Algonkian stock, for two reasons; first, all the Indians whom Champlain met on the Shield appear to have been Algonkians;

and secondly, the region was well suited to a hunting culture such as that stock generally pursued, but suited not at all to the agricultural complex of the Iroquoian-speaking peoples. No evidence as to earlier, pre-contact occupation has come to light, except that which is offered below. As for post-contact occupation, and particularly after 1649, bands of Iroquois no doubt roamed the country, and may have penetrated to the region under discussion. Any Iroquois who may have come, however, soon had to retreat before the pressure of a new wave of Algonkians from the north. These people, particularly the Mississauga, seem to have occupied the southern end of the Park a century ago; local tradition asserts that a band (evidently of Mississauga) inhabited the southwest shore of Rock Lake until their removal to Golden Lake Reservation some time toward the end of the 19th century. Since the site appears to be prehistoric, the movements of these people has no direct bearing upon the discussion.

The first evidence of aboriginal occupation was noticed along the beach, where chips of grey chert and a fine scraper were observed (Fig. 1, f). More diligent search yielded a few dozen chert flakes, and from the water were recovered a fragmentary quartz arrow-point (Fig. 1, h), the only one on the entire site, and a part of a large quartz spear-point or lance (Fig. 1, e).

Work was begun immediately by commencing a test trench two and a half feet wide, fifty feet back from the water line and carried towards it. European artifacts were in evidence from the beginning in the form of iron nails, pieces of glass, cartridge shells, etc., but aboriginal material was not encountered until twenty feet of trench had been dug. Ten more feet of trench were dug, and then a grid was laid out in five-foot squares on both sides of it, giving the excavations a T-shaped form, and eventually covering over 600 square feet. The heaviest deposits of Indian material lay five to ten feet east of the trench, whereas the west, north, and east arms contained little or no aboriginal material. Thereafter, as far as examination revealed, the extent of the Indian occupation was extremely limited, covering only some 375 square feet.

Where the deposits had not been disturbed, there was (1) a large mass of humus of varying depth, (2) a very thin layer of charcoal and charcoal-impregnated earth, probably due to an ancient forest fire of large dimensions, (3) a layer of light-colored, sandy soil, often stained nearly white by ash from camp fires and from the forest fire, and (4) the yellow subsoil. It was in the third stratum that most of the aboriginal material was found: only when there had been disturbance of the soil was it discovered in the higher strata. The charcoal layer seemed to be nearly universal in the district: wherever one dug it appeared. It is worth stressing that the evidences of Indian occupation (except in disturbed

areas) was sealed in immediately beneath it in the culture-bearing, ash-grey stratum, and extending downward to a depth of as much as ten inches. Naturally, the charcoal layer was not always of the same thickness; yet it served as a clear line of demarcation between the humus and the culture-bearing stratum.

The latter stratum contained such artifacts as pottery in moderate quantity, a few chert scrapers, and a few pieces of slate which may have been tools. There were also a number of chert, slate, and white quartz chips; the former two definitely the result of human activity. A limited amount of charcoal was found, but usually in diminutive pieces. Conspicuous features in the culture-bearing stratum were the large masses of calcined and fragmentary bones, chiefly of small animals, and the abundance of sandstone fragments. The latter were very numerous and were usually found in clusters, suggesting that they may have served as hearths; more probably they were used to heat water. They were practically all fractured and many were fire-blackened. In the second level alone there were seven of these clusters, and calcined bones were contained in four of them.

STONE ARTIFACTS

The total number of specimens of stone recovered amounted to 715. The principal materials, in order of quantity appear in the accompanying table. By far the greater number of these showed no evidence of human workmanship, except that most of the sandstone had been fractured, probably by heat.

(1) *Axe:* One small stone axe (Fig. 1, d) was found at a depth of five inches, close to several fractured sandstones. It is made from finely consolidated brown granite. In outline it is rectangular; in cross-section, plano-convex, and in length-

TABLE 1

The occurrence of stone material

Material	*Chips and fragments*	*Tools and probable tools*	*Total*
Slate	22	5	27
Chert	45	19	64
White quartz	44	2	46
Granite pebbles	80		80
Fire-cracked stone	462		462
Other stones	35	1 (granite axe)	36
Totals	688	27	715

wise, section lenticular. One long side is flat, the other convex. The poll is unfinished; the bit is below the median line and is very blunt (dimensions: 87 × 62 × 30 mm).

(2) *Projectile points:* Two fragmentary points of quartz were found. (i) The basal end of a small projectile point (Fig. l, h) found at the west end of the beach, under several inches of water. To judge from the fragment, the point had been well made, although asymmetrical, with a large notch in each side near the straight butt (width, 26 mm). (ii) The tip end of a large projectile point (Fig. 1, e) of white quartz was found under water, in this instance at a depth of a foot. The specimen was probably leaf-shaped and somewhere in the order of 20 cm long (dimensions: 76 mm wide × 56 mm long × 18 mm thick).

(3) *Scrapers:* One rather large piece of semi-translucent quartz (68 mm × 26 mm), roughly rectangular in outline and plano-concave in section, could have served as a scraper since one edge is quite straight. It was found about four inches below the surface in a disturbed layer in which were also found numerous pebbles, clam-shell fragments, and a chert core.

Nineteen whole or fragmentary scrapers of chert were recovered, a number which is unusually large in view of the size of the site. Ten were complete. Nine are plano-convex, retaining the original fracture on the under side while the upper surface has been roughly rechipped to shape (except for one specimen in which the original fracture is retained on both surfaces). One edge—usually the longer, but in four cases the shorter—is finely chipped to make a scraping edge. In one complete specimen and in two fragmentary ones, the chipping along the edges is very steep. Probably, however, the most noteworthy feature in these scrapers is the fineness of the secondary chipping along the edges of some of them. In at least six cases, the width of the flakes struck off is frequently less than 1 millimeter. In regard to shape, five specimens are longer than wide, the rest are approximately square. The fragmentary specimens were probably all originally of the latter shape too. Lengths range from 15 mm (which makes a very small tool) to 50 mm, with an average for complete specimens of 24.2 mm.

(4) *Problematical tools:* The objects in this class (Fig. 1, a, c) are all of slate. They are extremely crudely made, so crudely that their purpose can only be guessed at. Six of these range in length from 26 to 110 mm. They all show the same technique in working, viz., the proper thickness is obtained by coarse flaking along the line of lamination, on both sides, whilst the outline is achieved by fine chipping across the grain. There are four pieces which may conceivably have been used as scrapers, and these are more or less uniform in shape. They are relatively thin and flat, of uniform thickness, and oval in outline. They are all,

however, very crudely made, with coarse flaking. All show one long edge more finely worked and thinner than the alternate edge. Two small specimens—one nearly elliptical with the long edge sharpened, and the other nearly square with a fine edge—may have been scrapers. One large piece (triangular in outline and uniform in thickness, with flat surfaces and edges) was probably a reject or a blank. Many of the twenty other pieces of slate have edges which could have rendered them useful as scrapers, but show no conclusive evidence of having been so employed. The material itself is a rather fine-grained slate, not unlike that used for building purposes to-day, with laminated structure. Several pieces are a bright gray, while the majority are either stained a brownish gray from lying in the soil or are slightly calcined. Some fragments are calcined only along one edge. None is even slightly polished. A specimen (Fig. 1, b) was found at Sunnyside Farm, Lake Opeongo, which is so similar in appearance to these objects that it must be included in the same class. This evidence shows clearly that the slate culture extended beyond the limits of Rock Lake. The Opeongo specimen is 77 mm long and rather better finished than those from the site under discussion.

POTTERY

Three hundred ninety-two potsherds were recovered, half of which were less than one-half inch long. A few larger specimens, however, permit certain information to be gleaned from them. A noteworthy fact is that many specimens are split lengthwise, so that only 230 sherds retain the exterior surface.

The paste was fired to a gray-buff tone; in only a few cases is there a gray core showing incomplete firing. Tempering is of quartz sand. When found, the sherds crumbled readily, except for the larger pieces. The outer surface was smoothed so as to bring a film of paste to the surface.

Sixty-five sherds or 28 percent of the total show some form of decoration. All thirteen rim sherds were decorated, while most of the body sherds were plain. Decoration never occurrs on the interior, and the top of the rim is invariably flat and plain.

Decoration may be described as rectilinear. One rim band bears a series of short grooves or hachures: the rest of the sherd is plain (Fig. 2, a). Hatching appears on about three dozen other pieces, seemingly rough parallel marks, but weathering has made the design indistinct. One example shows a chevron design. A lozenge-shaped design on the neck or shoulder of a small vessel appears in Fig. 2, c. Oblique hatching appears below the rim on one sherd. The most striking pattern is one in which deep, vertical and horizontal grooves are worked into a rectangular plat or grid design, somewhat similar to but not exactly cor-

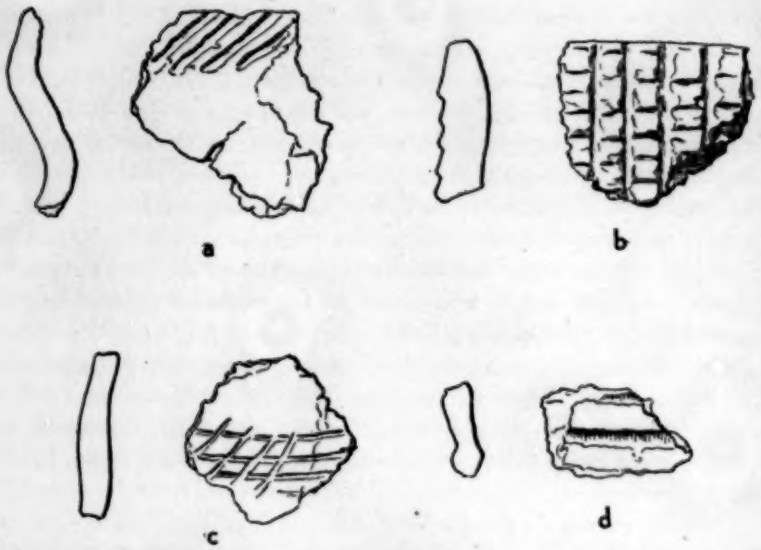

FIG. 2. Potsherds from the Rock Lake site: a, hachure design on rim; b, "corn-ear" pattern on rim; c, lozenge pattern on shoulder sherd; d, cord-impressed design on body sherd. (Specimen numbers: HD. 14124, 14335, 14263, 14151.)

responding to Wintemberg's "corn-ear" pattern. In this example at Rock Lake, the incising is much deeper and more pronounced, and moreover, unlike the "corn-ear" design, appears to have completely encircled the rim of the vessel (Fig. 2, b). The design occurs at Rock Lake on about eighteen sherds, but they were all from the same vessel. At Roebuck site,[2] Wintemberg found his "corn-ear" pattern repeatedly, but while there is a superficial resemblance between the pattern at the two sites, the differences, both as regards technology and uses, make it improbable that there is any direct connection. Three other sherds, probably all from the same vessel, have rectilinear designs made by impressing a cord-wrapped stick (Fig. 2, d), at intervals of about one-quarter inch. They are body or shoulder sherds.

The general affinites of the pottery seem to be Woodlands, though there are some resemblances to that found at Roebuck by Wintemberg, and which he identified as Mohawk-Onondaga.

2 W. J. Wintemberg, *Roebuck Prehistoric Village Site, Grenville County, Ontario* (Bulletin, National Museum of Canada, no. 83, 1936), p. 43.

BONE OBJECTS

Relatively large quantities of bone were recovered, but none of it was worked. Around the supposed hearths were rather extensive concentrations of fragmentary, calcined bones, usually those of small animals and birds, as mentioned above. These had evidently been dumped into or near the fire after the meal, until there was a good-sized deposit of them. Unfortunately, due to their fragmentary and fragile condition, identification was exceedingly difficult, so that out of perhaps some 1000 pieces only 26 could be identified with any degree of accuracy.[3]

The following species were identified: rabbit (probably Varying Hare or Snowshoe Rabbit), 1; muskrat, 1; deer (probably Virginia Deer or White-tailed Deer), 11, including 8 which were not positively identifiable; deer's teeth, 2; "mammal bones," 5; mussel shell (*Elliptio complanatus* Dillio), 8; squirrel (probably Red Squirrel), 4; fish vertebrae, 2. No new species or varieties not known in the area today were revealed. The Indians of Rock Lake evidently lived upon the same kinds of animals as inhabit the Park at present, confining themselves for the most part to small game. This was cooked (i. e., boiled) and the bones cleaned, broken and discarded. The mussels were also doubtless eaten.

SUMMARY

The Rock Lake site was occupied by one and possibly by two groups of people in prehistoric times. The culture-bearing stratum was very shallow: in places it had been dug into with consequent confusion between its material and European goods; in other places it was entirely undisturbed. A band of charcoal separated the prehistoric from the historic level where disturbance did not occur. The two cultures of the prehistoric era lay close together: no stratification could be ascertained other than that as a rule the slate elements were slightly lower than the ceramic. The two seem to differ typologically.

The upper portion of the culture-stratum yielded pottery, probably Woodlands, but showing slight similarities to that of the Roebuck site. Other traits were the stone axe and numerous chert scrapers. The slate culture, from the lower portions, showed crude slate objects, possibly scrapers, which have also been discovered at Lake Opeongo. Quartz points found at this site probably appertain to the slate culture as well.

The time of occupation is thought to be late prehistoric—prehistoric because

3 The identification of bone material was done by the following members of the staff of the Royal Ontario Museum of Zoology, whose kind assistance is gratefully acknowledged: (a) shell—Dr John C. Oughton (now of Ontario Agricultural College, Guelph); (b) bird—Mr C. E. Hope; (c) mammal—Mr Leslie Prince (now of McMaster University, Hamilton).

of the complete absence of European goods and late because of the shallow overlay of accumulation. A culture, seemingly Woodland, and possibly an earlier culture also, occupied the site, but stratification was not clear enough to make a positive assertion possible.

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